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Dated Ponterwyd, Rhayader, May 19, 1857. *34*

**NO CAPITALISTS, AND OTHERS INTERESTED IN MINING.**  
 —To be sold, or worked in company, an extensive and RICH GOLD FIELD, having a plentiful supply of water and timber; in an excellent climate, situated in the Granadas, South America, which has cost the owner thereof \$300 sterling. A working party will be sent on a party in full outfit and make the first selection. This being a *bona fide* concern applicants will please give proper addresses, without which no notice will be taken. Address "Pagarita," Mining Journal Office, 26 Fleet-street, London.

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REFINED METALLIC NICKEL. | OXIDE OF COBALT. [WIRE, &c.  
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**GREAT CARADON.—FOR SALE, FIVE HUNDRED AND**

**B** THOSNICK CONSOLS.—THREE SHARES TO BE DISPOSED  
OF in this valuable LEAD MINE.—Offers to be sent to Mr. JOHN TURNER,  
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**RAILWAY WAGONS.**—TO ~~RENT~~ LET, on reasonable terms, a QUANTITY of 6 tons RAILWAY WAGONS.—For particulars, apply to Mr. HOS. NURSE, Wellington Chambers, Cannon-street West, London.

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**WEST CARADON MINE.—A FULL SPECIAL REPORT,** just made from a careful inspection of this mine, appears in Mr. MURCHISON'S **QUARTERLY REVIEW OF BRITISH MINING**, which is now ready. Price, 50

**GREAT WHEEL ALFRED.**—A SPECIAL REPORT, just made from a careful inspection of this mine, appears in Mr. MURCHISON'S QUARTERLY REVIEW OF BRITISH MINING, which is NOW READY. Price, with a copy of the ALFRED & ROSEWARNE DISTRICTS, 4s. 6d. per copy. Mr. Murchison's offices, 117, Bishopsgate-street Within, London.

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GREAT WHEEL ALFRED.  
EAST WHEEL ALFRED.  
WEST ALFRED CONSOLS.

**SPECIAL REPORTS**, just made from careful inspections of the above mines, will be found in **M<sup>r</sup>. Murchison's QUARTERLY REVIEW OF BRITISH MINES**.

ISH MINING, which now I ADVERTISE; the REVIEW also contains Full Particulars of the Position and Prospects of the principal Dividend and Progressive Mines, Tables of the Dividends paid in the past Quarter, and in the Years 1855 and 1856. Price, with a MAP of the ALFRED and ROSEWATNE DISTRICTS, One shilling; at Mr. MURKINSON'S office, 117, Bishopsgate-street Within, London.

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## WHEEL LOPES.

The following reports of the managing director and of the agents were read at the bi-monthly meeting, held the 12th of May, at the offices, No. 3, Old Broad-street:—

At this, your first legally constituted meeting, a quorum not having been formed at the last, it may be desirable to recapitulate the circumstances under which Wheel Lopes was re-opened, and the conditions on which the public were invited to join in the adventure.

Wheel Lopes is an old mine; I have traced the workings of the "old men" to a remote period; and Sir Massey Lopes has informed me that a lease of the sett was granted in 1780. It was, however, last worked by the Plymouth and Dartmoor Mining Company till the end of the year 1845, when it was abandoned for want of funds, much to the regret of the adventurers, as the following extract, from the reports of a meeting held July 5, 1844, will show. Mr. W. Franco, the Chairman, stated "that the agents' reports were highly satisfactory, fully warranting a further outlay, for the mine never presented such encouraging prospects." The continued fall, however, of the standard, at this period, from 107½ s. in 1844, to 90½ s. in 1848, which proved so fatal to many mines, appears to have disheartened the shareholders, and the mine was abandoned.

In Jan., 1856, Capt. Phillips, of the Bedford United Mines, than whom a more experienced miner can scarcely be found, knowing the value of the mine, applied for, and obtained, a lease of the sett for 21 years, at 1-15th dues, paying the lord a high premium for the grant. The requisite buildings and underground works were commenced in May, and the necessary machinery to drain the mine contracted for and erected. It was only when these preliminary steps had been taken, and the value of the mine, and the outlay required to open it, ascertained, that the public were invited to join in the undertaking in December last.

It is not necessary to occupy your time in stating all the advantages contemplated in re-working this mine; a few will suffice. It was ascertained:

1. That large deposits of copper ore were laid open in the different levels and winzes below the 30, which though valueless at the standard of 1844 and following years, would yield a good profit at an average standard of 130½.

2. That immense quantities of zinc ore (blende) were also laid open. This mineral it is known was of no value at that period. It has now a ready sale; the price varying from 2½ to 4½ s. per ton. The blende found in this mine has been pronounced to be very pure; and a considerable quantity is already at surface.

3. That all the machinery could be worked by water-power, the River Plym furnishing an abundant stream of water, thus saving one of the heaviest items of expenditure in a mine—steam-power.

4. That as two of the shafts were sunk to deep levels, one to 62 fms., the other to 82; and that levels and winzes had been driven and sunk in various parts of the mine, no delay would take place in making returns of mineral as soon as the mine was drained.

It now remains for me to state how far these assertions were founded on facts. But first I will read extracts of a report made by a tributer, named Fezzy, who appears to have been one of the last miners who was underground, when the mine was filling with water.

His report is dated April 23, 1856. "A good shoot of ore was found in the 14, to the west of main engine-shaft. The 30 is extended about 30 fms. west of main shaft, but not far enough to meet the ore gone down in the bottom of the 14. The 60 west is driven about 13 fms., and we broke from the lode large stones of solid ore, weighing 15 or 16 lbs. in weight. I was in the mine the last ore that ever worked, and we stayed in the 60 end west till the water took us up to the middle. East of main shaft, in a winze sunk from the 30 to the 50, there is a lode standing in the eastern point west 2 tons of copper ore per fm. In a winze sunk from the 50 to the 60, the lode is standing, worth 1½ ton per fm. In a winze sunk from the 60 to the 70, the lode is worth 2 tons per fm. The eastern shaft is 82 fms. deep, the last 25 fms. was in elvan; in the last 2 fms. we had good slabs of ore."

So far the report: now for the facts. The water is drained, or in fork 35 fathoms.

In the 14 west there is a lode standing worth 1 ton of ore per fm. In the 30, east of main shaft, the lode is standing in the back, worth from 2 to 3 tons of copper and blende. In the winze from the 30 to the 50, as far as can be seen, the lode, both east and west, is richer than in the back, and is worth from 3 to 4 tons for copper and blende per fm. As the water is not drained deeper, nothing can be said of the other assertions, nor of the appearance of the lode west of main shaft, but it is surely only fair and reasonable to infer, that, as these statements have been found strictly correct in the 30, the others may be assumed to be equally true; and if so, then, without driving a single fathom, we shall have good reserves laid open to help on the cost. It is quite impossible at present to speak positively of their value for copper ore, as after being under water for twelve years, the lodes are thickly coated with dirt and green oxide of copper; but enough has been seen to warrant the conclusion that they will have a good profit. The agent's reports will give details.

All the pitwork necessary to drain the mine to the 62 is ready, and will soon be fixed, and the water drained.

The presence of ore in the levels that are already drained, rendered it expedient to provide hauling and crushing machinery. These have been purchased, with a 38 ft. water-wheel, 2 ft. breast, to work them; and the necessary masonry for their erection is in progress. I calculate that the hauling machine will be in working order in June, and the crusher in July, when the ore in sight will be immediately brought to surface, crushed, and sent to market. The quantity of copper and zinc ores that can be immediately raised, cannot now be accurately estimated. But I believe I shall not be misleading you in stating that I anticipate our sampling for August will be considerable.

The financial statement will show that the expenditure exceeds the receipts by 463½ s., and that the estimated costs for the two next months will be 310½, making a total of 773½ s. As I cannot possibly hold out any hopes of returning ore before that period, I must ask you to call up a portion of the reserve fund of 1200½. Half-a-crown per share will yield 750½, and this I think is all that need be subscribed for at present. I would wish to impress forcibly on your minds, that the machinery erected is equal to fork the mine to any depth, and that the pitwork already purchased will drain the mine below the 62.

All the expenses that have now to be incurred are for the ordinary working expenses of the mine, and as a proof how very moderate these will be, compared to an equal power produced by steam, I may state that in coal, grease, and enginemen's wages, there will be a saving of 80½ per month. As very few shareholders have inspected the schedule of plant and machinery, I have thought it advisable to annex a summary of it, that they may be able to form an estimate of the value of their property.

In conclusion, I can only add that my conviction is stronger than ever that Wheel Lopes will make a lasting mine, and prove a most valuable investment. It can no longer be termed a speculation, as you have on the table the ore that has been raised from beneath the water.

W. H. MORTIMER.

**Bedford United Mine, May 9, 1857.**—After a careful inspection of the 30, I beg to hand you my views upon the mine. In looking at the back of the 30 east of Tregaskis shaft, I find, for a great many fms. in length, the lode is large, and of a very promising character, composed of capel, spar, blende, and will yield from two to three tons of the latter per fm. beside some good copper ore. The bottom of the level is equally good, or rather better than the back, the mineral part of the lode being larger, and containing more copper ore, which is clearly shown by Collins' winze (No. 3), where the lode (as far as it can be seen for water, which is between three and four fathoms below the bottom of the level) will yield for blende and copper ore from three to four tons per fm. This clearly shows the lode improves as it goes down, and looks well for the deeper levels. This winze is between two cross-courses; the eastern one is 55 fms. from it, and the western one 35 fms., therefore, the piece of ground between these two cross-courses, which is 90 fms. in length, and in which the winze referred to is sunk, may be considered a favourable one for turning out a quantity of mineral and considering the very favourable price now to be obtained for blende, and the high standard given for copper ore, my opinion is that there is to be obtained from the back and bottom of the 30 a great quantity of these minerals, which will leave a fair profit to the adventurers, as the cost of sinking the ground will be comparatively easy, say from 50s. to 3½ per fm. The drawing machine and crusher, which is on the mine, should be erected as soon as convenient, for the purpose of drawing the stuff, and rendering the ore marketable in the cheapest manner, as I have every reason to believe that, as soon as the water is in fork, there will be a tolerable good quantity of blende and copper ore raised from the ground already opened. In conclusion, I beg to say that the appearance of the lode in the 30 will bear out what has been said in former reports. All the machinery is of the best material, and in good working order.—JAMES PHILLIPS.

**Devon and Cornwall United Mines, May 9, 1857.**—According to your request, I inspected this mine on Thursday last, but I am not trouble you with any lengthened report; suffice to say, I found all your arrangements complete for fixing the plunger at the 30, and that the water is in fork low enough to admit of examination of the lode several fathoms below this point. In a winze sunk from the 30 to the 50, I find the lode in the 30 is large, composed of capel, spar, blende, and copper ore, and for some distance east and west of the winze (Collins No. 3), I value the lode respectively for blende and copper, taking back and bottom into consideration, worth 20 s. per fm., and it is evidently improving as it goes down, which taking as it is in 20 fms. of whole ground, shows that you have a source of returns available at a moderate

rate cost, as the ground is very easy, and can be staked for 1½ s. per fm. In conclusion, I beg to state that you state good machinery, and I have no doubt you will have a lasting mine.—THOMAS NELL.

**Wheel Lopes Mine, May 11, 1857.**—The construction set with in the shaft, above the 30, allowed in report for the last meeting, has since been cleared and the lift dropped low enough to fork the water 5 fms. below the 30, the lift properly stayed and secured, and footway put in the Footway and Helen's shafts. At the 30, two cisterns were found, one of which being of no service has been taken abroad and sent to surface, as also a large quantity of old timber, the other was found fitting for the plunger-lift, only requiring to be altered in its position, ground for which has been cut and the cistern fixed in its place. Ground was also required to be cut down for the H piece, which has been done, and everything in the shaft put in order to receive the pumps, and every necessary material for the plunger-lift. The 30 has been cleared and secured, so as to admit of examination a short distance east of No. 3 winze, beyond which the levels, winzes, rises, and old workings are in a crushed state, owing to the soft character of the ground; a very limited view only, therefore, has been obtained in this part of the mine, but the lode where seen shows prill, spar, blende, blende, and black ore, looking very promising. As Capt. Phillips and Nell have inspected the mine, a reference to their report need not give you an idea of the value of the lode, so that no further remarks of mine on it are necessary. The 30 is also driven west, but how far, or what the appearance of the lode is therein, is not known, as the level is full of stuff. The lobby to the whelpleit for hauling machine has been excavated, also several fathoms of the whelpleit, and if the ground does not become harder than it is at present, we shall shortly have it ready for the machinery. All the flange bolts, bars, rods, pump rings, are ready for the pitwork, with the rods and other timber on the mine necessary to complete the plunger-lift to the 30. The pump-house, pitman's house, and office have been completed, with the exception of one coat more of plastering in the office, which will be put on as soon as the walls are dry enough to receive it, and we are now occupying the buildings. As soon as we get our plunger working, I anticipate we shall soon see the 50, as we have dropped a line and found the shaft clear within 4 fms. of the 50, and as the summer season is before us, we may not expect such heavy and continuous rain, as we had in forking from the 16 to the 30, neither will there be so much work in the shaft to do as there was in forking the upper parts of the mine. The machinery and pitwork in the mine are in good order and working well.—H. HOSKINSON, Capt.

## WEST OF IRELAND MINING COMPANY (LIMITED).

Under Act 19 and 20 Vic., c. 47.

Capital £50,000, in 50,000 shares of £1 each, 5s. thereof to be paid on application for shares, and the balance of 15s. at the expiration of two months from the date of allotment.

The capital to be increased, as the works progress, by subsequent serial issues of shares. The holders of the first issue to have the right of pre-emption of the shares to be afterwards issued.

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LIVERPOOL.—Messrs. H. Davies and Co., Royal Bank-buildings. SECRETARY.—J. Burns Bryson, Esq.

OFFICES.—1, CHARLOTTE ROW, MANSION HOUSE, LONDON, E.C.

The object of this company is primarily the development of one of the richest and most varied mineral deposits in the British Islands, under the lease, granted by the Marquis of Sligo to Sir James Donabrain, for a term of 11 years, at a royalty of 1-16th, which will be held by this company on very favourable terms. The ultimate object will be the development of the general resources of Ireland as a national association. The area comprised in the present grant is not less than 150,000 acres (more than 200 square miles), and embraces all mines and minerals. The lands are situated in the western and south-western districts of the county Mayo. The map and section contained in the report of Mr. Doyle, and the reports of Messrs. Francis, Brett, and Colles, define their position and geological strata. Lough Mask is within the area, and the whole is intersected with rivers and streams, so that the water power is inexhaustible, while the sea frontage affords every opportunity for shipment, either by the formation of quays to suit circumstances, or by means of the existing and well-known ports of Killybegs and Westport.

That the western coast of Ireland abounds in every description of mineral yield is beyond controversy; but hitherto there has been but limited exploration of its riches. Coal, iron, copper, lead, silver, marble, and slate exist throughout. The iron is equal in quality to the blackband of Lanarkshire, and its marbles, of every colour, are almost without rival. The cubic lead ore even of this locality contains more silver per ton than is to be found in lead ore of this crystalline form in any other country. The value of the grant is therefore apparent; and nothing but capital and enterprise are required to develop its enormous wealth, which, while proving highly remunerative to the shareholders, must necessarily be of great importance, not only to the district, but to Ireland generally, and in the mineral and general commercial markets of Great Britain.

The geological position and indications of this extraordinary tract of country are so clearly defined in the reports, that it is sufficient to refer to them. Although the description by Mr. Doyle, and those of Mr. Francis, Mr. Brett, and Mr. Colles, are so satisfactory, yet it must be borne in mind that their observations have been limited to a small portion only of this vast estate, there being many thousand acres present and certainly in the future in a geological and mineralogical point of view which have never yet been explored.

The position of this property as respects exports, especially to America and Canada, is a point of great consideration. It is well known that the supply of slate from Wales and Cornwall is not equal to the demand, and vessels are constantly returning to the United States without the desired cargo. In Wales orders cannot be executed under three years at the principal quarries, yet 350,000 tons are quarried annually there alone. This company may monopolize the American trade in this article, and supply all that is required, thereby will also open a field for a continuous demand for marble and being intended to be increased by the issue of new shares as the progress of the works may demand. It will be observed from the reports, that lead, marble, and slate can be operated upon at once, at an outlay which justifies the expectation of large and increasing dividends from these sources alone, apart from the other valuable metals and minerals in the lands.

The Act of Parliament under which this company is incorporated limits the liability of each shareholder to the amount of the shares held, thus giving to mining enterprise that security to which it is so justly entitled. The position which British mining takes in the general commerce of the country is clearly demonstrated by the statistical returns, published monthly by the Board of Trade, of the exports of home produce and manufacture. In last year, ending Dec. 31, 1856, it appears that the total exports of the United Kingdom amounted to £115,390,857, and of this no less than £27,151,880—a little less than one-fourth—represents metals and metallic manufactures, the produce consequently of our mines. The increase of the total exports during the year 1856, over the previous year, 1855, is £20,302,772, of which £2,119,320 is in the export of metals. Ireland has already begun to contribute considerably to this state of prosperity; and it is undoubted that a judicious employment of skill and capital will develop resources in that country, and more particularly in the district above described, as great, if not greater, than those contained in any other portion of the empire.

Prospectuses, the reports above referred to, and forms of application for shares may be had at the offices, or from the solicitors and brokers of the company.

## ECONOMIC LIFE ASSURANCE SOCIETY.

6, NEW BRIDGE STREET, LONDON.

CHAIRMAN.—HENRY FREDERICK STEPHENSON, Esq. DEPUTY-CHAIRMAN.—ROBERT BIDDULPH, Esq.

ADVANTAGES.—Mutual assurance. The lowest rates of premium on the mutual system.

The whole of the profits divided every fifth year.

An accumulated capital of £1,575,000.

During its existence the society has paid in claims 1,455,000.

Reversionary bonuses have been added to policies to the extent of 890,000.

The last bonus, declared in 1854, averaged 267 per cent. on the premiums paid, and amounted to 397,000.

Policies in force 7,437.

The annual income exceeds 240,000.

The next division of profits made in 1859.

Assurances effected prior to Dec. 31, 1859, will participate in the division of 1863.

Prospectuses and full particulars may be obtained on application to ALEXANDER MACDONALD, Secy.

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LONDON, continue to TRANSACT BUSINESS IN BANKING, MINING

(both English and Foreign), RAILWAY, and every description of SECURITIES; and are in a position to BUY and SELL at the market price of the day.

The present favourable opportunity to capitalists command special attention to mines, while every paying dividend of from 15 to 25 per cent. Those of a progressive character, judiciously selected, frequently rising in value 50 per cent. and upwards.

WANTED.—Alfred Consoles, Bedford United, Condurow, Devon Great Cornels, Goussens, Hington Down, Great Wheel Vor, Rhoadyol, Providence, South Box, South Caradon, South Wh. Frances, Wh. Trelawny, Mary Ann, West Nant-y-Mryr.

## THE VICTORIA SILVER-LEAD MINE, CARDIGANSHIRE.

The Victoria mine is situated one mile south-east from Tredici, or half-way between Machynlleth and Aberystwyth, in the parish of Llanyfelin, county of Cardigan. This mine is well situated in the mining district, and a congenial stratification for lead and silver. There are several mines in the neighbourhood—Llanafnell Mine, about one mile due west from here; the Gwarswain Mine, half-a-mile to the south-west, and several others, such as Penybanc, Penpontbren, All-y-Cry, from which mines the old men have taken great quantities of silver-lead ore, and I cannot see anything against this sett why it should not do as well if it was properly opened and developed.

The trial that has been made is next to nothing. There is a shallow edit driven 15 fms. on a north and south lode, in which they had spots of ore for the whole length, and there is a cross-cut driven south-west for 12 fms., where they cut an east and west lode, with some spots of lead ore. But these levels are of little use in any way, being too shallow, having only 2 or 3 fms. of backs. They have sunk 8 ft. on the bottom of this level, and the ore improves as it goes down. The lode is composed of light coloured clay-slate, carbonate of lime, spar, and lead. It seems that there is a junction of two lodes here, one east and west, the other north and south, and it stands a fair chance of producing good ore if tried at any reasonable depth. A shaft should be sunk 20 fms., and a drift then driven from bottom of the same to prove the lode, and I believe it would make a good mine. Besides this, there is a level driven in the dingle, about 20 fms. long, to cut the lode about half-a-mile west of this place, where probably there are about 100 fms. of backs, but the level has not been driven far enough to cut the lode by about 20 fms.

The sett is about one mile long by half-a-mile wide. The take-note is held from J. M. Davies, Esq., and a lease is to be got for 21 years. There is plenty of water at all seasons to work any machinery which might be requisite for pumping, drawing, and dressing; on the whole, I believe it to be a fair speculation, and worthy of a fair trial.

JOHN HUGHES, Talyston, Cardiganshire.

For further particulars, apply to Capt. JOHN HUGHES, Talyston, near Aberystwyth, Cardiganshire.

## THE LITTLE DOWN AND EBBER ROCKS MINERAL COMPANY (LIMITED).

Capital £50,000, in 10,000 shares of £5 each.—Deposit £1 per share, and £1 on allotment.

OFFICES.—44, LEICESTER SQUARE, W.C., LONDON.

Samples of the iron, lead, and copper ore, manganese, calamine, red and yellow ochre, and various other valuable minerals, recently obtained from the works of the mines, have been deposited at the Museums of the Geological Institutions in Jersey-street, Bristol, and Liverpool. Samples may be examined at the offices, as above. Reports of the surveyors, and the results of several chemical analyses, together with prospectus, and all particulars, may be had at the offices, as above, or on application to the secretary.

By order of the Board of Directors. CHAS. GOOD, Secy.

## SLATE SLABS AND ROOFING SLATES.

THE PROPRIETORS OF THE NEW MACHNO SLATE AND SLAB COMPANY (LIMITED) have, at great cost, made arrangements to convey their produce from their quarries near Pwllheli to Conway, to obtain the great advantage of access to the railway, giving them the facility of executing orders without the slightest delay. They trust that making Conway their shipping port will not cause them to be confounded with those hitherto known as the CONWAY SLATES, as the MACHNO SLATES ARE ENTIRELY FREE FROM PYRITES, or any metallic substance liable to OXIDATION; and, from having been tested in Wales for at least half-a-century, are found to attain a degree of hardness, by exposure to the atmosphere, unknown in any other vein. The MACHNO SLATES are too well known to need comment, but the annexed valuable testimonial from Mr. Magnus, an analyst of some chemical test to which they have been subjected, will better explain their quality:

*Public Slate Works, Upper Belgrave-place, London, April 7, 1855.*—GENTLEMEN: I very readily offer to testimony to the excellence of your slates raised at the Machno Quarries. I prefer them to all others obtained in North Wales, with one exception, and that is: much of the same quality as the Machno. The slabs can be obtained of large sizes, and of every requisite thickness. They are homogeneous in texture, strong, of good colour, free from spots and other impurities, pleasant to the touch of the mason, easily planed and moulded, and will bear exposure to a much higher degree of heat than slabs from any of the Carnarvonshire quarries. Signed, G. E. MAGNUS.

To the Proprietors of the Machno Slate and Slab Quarries.

*Liverpool, Oct. 18, 1855.*—DEAR SIR: The experiments which I have tried on the specimen of slate, in reference to its capability of resistance to acids, evince its proneness in its every way capable of retaining boiling vinegar, without injury either to its own substance, or to the contained vinegar. A piece of the slate, weighing 35 lbs., was exposed for 26 hours to the action of cold strong nitric acid; it was then boiled in the same acid for 30 minutes, and when washed, dried, and weighed, was found not to have lost perceptibly in weight. This I consider the most conclusive experiment. Signed, GEO. C. HUSON.

Wm. Orme Carter, Esq., Machno Slate and Slab Company.

All communications must be addressed to the resident director, Mr. T. H. WHELAN, Conway, North Wales.

## TO SUBMARINE TELEGRAPH CABLE, WIRE AND HEMP

ROPE MAKERS.—ARCHIBALD SMITH beg to call attention to his PATENT ROPE MAKING MACHINERY, recently perfected, and applied with its most complete success in the manufacture of the Atlantic Submarine Telegraph Cable. By this machinery, ropes are made without motion being given to the material composing it. The speed is, therefore, almost unlimited; a saving of 75 per cent. is effected in the cost of manufacture, and 50 per cent. in engine power.

In wire ropes made by this machinery, no twist can be put into the individual wires or strand.

The patent is now prepared to GRANT LICENSES and SUPPLY MACHINERY on liberal terms.—69, Prince-street, Leicester-square, W.

## THOS. GEMMELL AND CO., WIRE ROPE MANUFACTURERS,

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ISAAC NAYLER, Didsdale, near Dudley.

J. WADDINGTON, 109, Millgate, Wigton.

THOMAS REID, 33, Quay-side, Newcastle-upon-Tyne.

## THE ENGINEER, of Friday, May 22, contains—Descriptions of

Joy and Holt's Hydraulic Engine, &c.; Longridge and Richardson's Locomotive Fire Engine, Newell's Engine, McClelland and Mackenzie's Improvements in Feeding Boilers, Whitehead's Apparatus for Producing Devices on Wood, &c.; Platt's Apparatus for the Production of Ice, Sumner's Power Loom, and Collier's Improvements in the Manufacture of Pile Fabrics, all illustrated. Original Articles on Machinery in the Paris Exhibition, Tramways in India, Progress of Steam Culture, Hydraulic Engineering. Article on American Railways, by Zerah Colburn; Paper on the Patent Law of India; the New Thames Graving Docks; Discussion on Mr. Rennie's Paper, and Description of the Method of Building Bridges on Brick Cylinders, by Mr. Bruce, or on the Disturbance of Suspension Bridges, &c., by Messrs. Lakin and Conder; Parliamentary Intelligence; Letters to the Editor on various subjects. Patent Journal; Timber and Metal Markets; Trades—Birmingham, Wolverhampton, and other Districts; Notes from the Eastern Counties; and all the Engineering News of the Week. 34 pages, Price 6d.; Stamped 7d. Vol. I, Price 15s.; Vol. II, Price 15s., may now be had bound.

Bernard Luxton, Publisher, 301, Strand.

## INVESTMENTS IN BRITISH MINES.

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## OPINIONS OF THE PRESS.

Mr. Murchison's new work on British Mines is attracting a great deal of attention, and is considered a very useful publication, and calculated to considerably improve the position of home mine investments.—Mining Journal.

The book will be found extremely valuable.—Observer.

A valuable little book.—Globe.

A valuable guide to investors.—Herald.

Mr. Murchison takes sound views upon the important subject of his book, and has placed, for a small sum, within the reach of all persons contemplating making investments in mining shares that information which should prevent rash speculation and unproductive outlay of capital in mines.—Morning Herald.

Of special interest to persons having capital employed, or who may be desirous of investing in mines.—Morning Chronicle.

Of great value to capitalists.—Sun and Times.

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As a guide for the investment of capital in mining operations is inestimable. Out of the most valuable mining publications which has come under our notice, and contains more information than any other on the subject of which it treats.—Derby Telegraph.

To those who wish to invest capital in British mines, this work is of the first importance.—Wesleyan.

This work enables the capitalist to invest on sound principles; it is, in truth, an excellent guide.—Plymouth Journal.

All who have invested, or intend to invest, in mines, will do well to consult this very useful work.—Ipwich Express.

This is really a practical work for the capitalist.—Stockport Advertiser.

Persons desirous to invest their capital in mining speculations, will find this work a very useful guide.—Warrick Advertiser.

It is full of carefully compiled and reliable information relative to all the known mines in the United Kingdom.—Sheffield Free Press.

## Original Correspondence.

## MINE INSPECTORS.

Sir,—Some judicious remarks on mining captains being inspectors have lately appeared in the Journal. It is hardly fair to the mines they manage for these gentry to be so often overburdened by business; they have not time to attend to their own or their employers' interests, as they should do. I have heard of one extraordinary individual, who boasted of having inspected and reported on 100 mines in a month, and on one occasion that he had examined five mines in one day; now, however smart a man he may be, or how close the mines may be together, yet I appeal to any miner whether he could possibly have given these mines a proper examination? Another person examined the United Mines, Gwennap, in eight hours, a feat unparalleled, or impossible; the reason urged was, that he was engaged to inspect another mine, and the gentlemen from "up the country" would be waiting for him. I know another fashionable inspecting captain, who reported on a series of mines in the limestone formation, and had never been on a limestone mountain before. These hasty reports cannot be effective of anything else than extracting money out of the silly shareholders' pockets, as easily as the silly ladies who are votaries of fashion are gulled by a new and fashionable bonnet.

Depend on it, Mr. Editor, to examine a mine, ever so small in extent, is a good day's work, provided it be done properly. I hold the duties to be as follow: Ascertain the extent of the sett, direction, and number of lodes discovered, their bearings to the granite, if any exist, as well as their connection with the neighbouring rich mines; to thoroughly examine the strata at surface, and discover if any change of ground takes place; all this work should be done at the surface of the mine, then examine the machinery, and methods of dressing practised. Underground, the duty should be to examine the nature of the ground in the shaft, and notice particularly any influx of water, the lode to be carefully examined in every place that opportunity offers, as well as the ends and bottoms of every level; to ensure the men at work as to any peculiarities they may have remarked in the course of their explorations; to visit and value all the backs and tribute pitches; to ascertain the dip and alterations of the lode; to ascertain its composition in all the levels, as well as the variation in their temperature; to make minutes of all these particulars, and, after reading them carefully, to come to a conclusion as to the probabilities of results, keeping analogous circumstances in view. It is wrong either to praise or condemn a mine, and trifle with invested interests, in any cases the "all" of the adventures, without calm, cautious, due consideration, which I contend cannot be done at the rate of five mines a day.

I was on a mine a short time ago, when the captain was underground with me eight hours. It had been inspected a few days before by a popular captain, who could only spare two hours underground, as he had elsewhere to go. He said he only wanted to see the bottom of the mine, and that was all he did; the strata were not examined, nor were the ends.

This paper will meet the eye of the captain of the lead mine in Devonshire I allude to, and he will remember the agent who went over the mine so rapidly, and framed so condemnatory a report from merely not seeing a good lode in the bottom of the shaft.

Another great evil is created by such hasty reports: they must necessarily frequently be erroneous, confidence is thus destroyed, and the whole lot are written down as humbugs and deceivers.

A thorough investigation of a mine by a qualified person should be well paid for, if made at all: a labourer is worthy of his hire, and to be well served, neither a company nor a private individual should deal out the remuneration with a niggard hand. There are plenty of good men to be had; and, as your correspondent has observed, a good mine more frequently makes a good captain than a captain makes a good mine, so a good practical judge makes a more able inspector than the most fashionable names.—May 21.

GEORGE HENWOOD.

## RATING OF MINES.

Sir,—The committee for this iniquitous purpose has again been appointed, Mr. Nicholas Kendall being Chairman; this time it is the royalties that are to be rated, and not the mines. What a farce, what an absurdity is this! The lords having to pay it will, of course, increase their dues, and the consequence will be that many capitalists will be deterred from embarking their money in mining adventures. The lords are not in general known for their liberality, and the Duke of Bedford has only within the last few days shown a notable instance of this. Many mines pay royalties on the ore, which is returning no profit to the shareholders; calls are constantly being made in many mines, and probably just at the expiration of the lease dividends are made. Does the lord then allow them to remain at the same royalties? he forgets, or assumes to do so, the immense amount already laid out to make his otherwise worthless property valuable, and according to the rate of profit, when a renewal takes place becomes more exorbitant in his already grasping demands. The mining interest is sacrificed; there is but one man on that committee, Mr. Colville, the Member for South Derbyshire, who I believe really takes an interest in the welfare of the working miner. I consider the question in a practical point of view; why should these experimentalists, who are many of them ignorant of the first principles of mining, be allowed to tamper with the interest of one of the most important and productive industries of the empire? Let these pseudo-legislators apply their attention to subjects of which they have some knowledge; but they should not be allowed to sit in judgment on a question the merits of which they are entirely ignorant of. Although an elector myself, I repeat that at the late dissolution the constituency did not do their duty; in one instance they acted right, in ejecting Mr. Sawle from Bodmin, who stated the county would be better without the mines than with them, that is, as far as regarded his own parish; Mr. Nicholas Kendall, and the other foes of the miner, should not have been returned. Every mine, and all the miners there employed, should petition the Legislature; it cannot be expected that the obnoxious measure can be carried into law this present session. If we have energy we may still defeat our enemies; agitation and union must be resorted to, the metalliferous miners in all parts of the kingdom should combine to prevent this noxious and mischievous attempt at legislation from becoming the law of the land.—Redruth, May 21.

CAPL.

## A SAFETY-LAMP FOR MINES.

Sir,—The recent truly awful accident at Lund Hill Colliery was but a repetition—with a fearful increase in the number of victims, and the other additional horrors of the old and too oft enacted tragedy on the world's stage, whose two only scenes are the gloomy coal mine, and a whole village of mourners, weeping for husbands, sons, and brothers, hurried into eternity, with almost the suddenness of the lightning's stroke, and ere they could utter that little word of supplication to their Heavenly Father—that word so earnest in the death-hour, and which is in itself a prayer—"Forgive me!" It is over; the curtain has fallen, and shut out from our eyes the painful scene, and there are human hearts, yet unhardened, through whose promptings consolation and relief will reach the bereaved ones, and thus tend to soothe them in their affliction. If not to compensate them for their loss.

Let us turn, then, from the dead to the living—from the victims of carelessness or of inadequate means of protection, which ever may have been the cause of the late accident, and of similar lamentable catastrophes—to those who still toil for the daily bread of themselves and those dependent upon them in our coal mines, exposed as they are every moment, it would appear, to the perils incident to their occupation, and let us ask what can be done to diminish the dangers thus continually impending over them. From all that has been said and written on the subject, we may infer that, generally speaking, explosions of fire-damp are not the result of inefficient lamps, but in very numerous instances are traceable to the use of a candle or open lamp. The miner, it is well known, will not use the Davy lamp, if he can possibly avoid it, owing to the insufficient light which it affords. In order that he may not be tempted to open the lamp to obtain a better light, I propose to substitute glass or talc in the place of the gauze, having satisfied myself, by some experiments which I tried twenty years ago, that flame will not pass through small apertures, whether the conducting power (as regards heat) of the bodies made use of, be good or bad. Indeed, the first material with which I experimented was a piece of cardboard, which I perforated by means of a pin. It then occurred to me to try talc, with holes drilled in it, so as to admit the necessary supply of air to support combustion. I accordingly procured a Davy lamp, removed the wire-gauze, and supplied its place with perforated talc. Being placed in an explosive mixture (the vapour of ether and atmospheric air) it answered admirably, the flame of the lamp being extinguished, and the explosive mixture burning quietly, with its characteristic flickering and colour, in the interior of the lamp, without exploding the compound which surrounded it. I found, however, that talc was objectionable, owing to its laminated structure. But I see no reason why perforated glass, well annealed, might not be used in place of the gauze. This lamp should be protected by a shield of talc to meet the danger arising from "blowers" of gas. It appears to me that a lamp thus constructed would answer all the purposes of a safety lamp, at the same time that the risk of burning bituminous or paraffine oils. A large solid wick is employed, combustion taking place only on its surface, thus preventing the diffusion of unconsumed carbon, and the charring of the wick; it being stated that one wick will last twelve months.

\* This difficulty might, perhaps, be overcome by the use of cement.

Another lamp which may, perhaps, be preferable even to that which I have above described, may be made of impermeable talc, the air being admitted at the bottom of the lamp, through perforations in any eligible material—talc, for instance, which would be more durable than wire gauze or the like, might be admitted through small tubes, terminating at their upper extremities just at the point of combustion. In either case, a talc chimney should be used, so fitted to the lamp that any explosive mixture passing in should come immediately in contact with the flame, and extinguish it.

I venture to indulge a hope that these lamps will, at least, have a trial; and I trust that no individual of that class of speculators who gain their livelihood, and sometimes even attain to a state of affluence, by pilfering the ideas, and thus working with the brains of others, will feel upon the public a lamp constructed, with perhaps some slight alteration, from the foregoing descriptions—crave-like sheltering himself under the mean and paltry subterfuge that they were mere "suggestions."

I have not sought the protection of a patent; for the invention I now gladly and freely thus publicly offer is not a luxury for the use of the rich, but a weapon of defence for the miner in his cheerless and hazardous occupation.

30, Fleet-street, May 20.

WM. LEITCHARD.

## SUBMARINE TELEGRAPH CABLES—THEIR SUBMERSION.

Sir,—The telegraphic cable, which is being manufactured for submersion between Ireland and Newfoundland, appears to be an object of some little interest. A great deal has been recently said on the subject, without communicating any definite information relative to the most critical operation connected with the project—the best mode of submerging the cable, may be, therefore, beg to invite attention, through the medium of your Journal, to a plan for effecting this object, which has hitherto been untried. It consists in the use of a "trail," or flexible tube, attached to the stern of the ship, through which a cable may be safely submerged in the deepest ocean in almost any state of the weather. Trails can be constructed in various ways, and may, if desirable, be made of the same specific gravity as the cable itself. A wire, or hemp rope, with a light metallic vertebrae tube in the centre, would probably answer well. It may be partially sustained in the water for the first half mile from the ship by small gutta percha buoys, made in the form of a fishes' float, attached to it at intervals, or by an air-tight gutta percha tube. A strong gutta percha tube, strengthened for the first half mile from the ship with a covering of wire, would, perhaps, also be a good conductor. It should be of sufficient length to reach into still water at such a distance from the ship as would place the extreme end beyond the influence of any motion which may be given to the inner end by pitching of the ship, or from any other cause, or it may be of sufficient length to reach to the bottom of the ocean.

The trail being, as it were, part and parcel of the ship, acts as a carrier for the cable, and thus virtually annihilates the distance between the ship and the bottom of the ocean, on the water, except to the extent of the friction of the cable in the tube; and as the motion of the extreme end of the trail would be steady and uniform in its passage through the water (the speed of the ship being uniform, however unsteady its motion), the delivery of the cable would also be steady and uniform; and as the cable cannot enter into the tube at the upper end faster than it is passing out of it at the lower end, it follows that any strain which otherwise would be thrown on the cable at its point of contact with the ship from any cause whatever, would be borne by the trail itself, instead of by the cable. In fact, the cable in its passage through the tube is completely protected from any strain, and from all circumstances which might be injurious to it.

It may readily be seen that, if a trail be submerged in a vertical position, the cable would pass through it without any strain at the lower end; it would in this position require a brake at the upper end to prevent its too rapid descent. It is equally obvious that, if the trail be placed in a horizontal position, the cable would require some force at the outer end to draw it through the tube, and consequently would not require a brake at the inner end to check its egress. It, therefore, follows, from these two self-evident facts, that there is a position between the vertical and the horizontal, in which the cable would deliver itself without any strain at the lower end of the tube, and without requiring any brake at the upper end. To obtain the proper delivery for the trail, it would be only necessary to ascertain the velocity at which the cable would sink in the water, and after making due allowance for the increasing or diminishing depth of the ocean as the ship advances, to regulate the speed of the ship accordingly.

The friction of the cable in the tube would not act as a brake, with the great advantage of its operating throughout the entire length of the tube, instead of on a few yards or fathoms of the cable on board the ship. If a trail be used, it would, of course, be absolutely necessary to guard against kinks in the cable; but viewing the description of cable of cable, the question of the delivery of the cable which labour under the direction of skilful judgment, may be employed on the occasion, there need scarcely be any fear in that particular. The cable should not be encumbered with many mechanical arrangements on board ship, perhaps the less the better.

If submersion of a cable is made from the centre of any ocean towards shore, the "trail" (if a metallic one) may be disconnected from the ship on her arrival in shallow water, and allowed to sink with the cable. It would thus afford that protection which the cable so circumstanced will require. Without enumerating all the advantages which would attend the use of a trail, it is well to observe that its adoption will enable a cable to remain otherwise neglected districts has induced me to look closely both into the article in question and the company's advertisement.

33, Wapping, May 19.

WILKINS AND WEATHERLY.

## TEMPORARY RAILWAYS, OR TRAMWAYS FOR THE COLONIES AND NEW DISTRICTS.

Sir,—Your Journal of March 21 contained an article on the economy of tramways worked by horse-power, over railways and locomotives, for the colonies or thinly-settled districts, in which there occur so many erroneous assumptions as to the cost of locomotive power, that the results obtained, and the deductions made, are altogether at variance with the facts. The same paper contains an advertisement of a tramway company for India, and looking at the two together, it would appear that a very erroneous impression is being conveyed as to the cost of colonial railways generally, and of what tramways may be in particular; believing, as I do, that tramways, or light railways, may be made very much more profitable than railways in many situations, in England and the colonies, and hoping that some cheaper system may be introduced into the most desperately neglected districts has induced me to look closely both into the article in question and the company's advertisement.

The experience of a railway 26 miles long in a prosperous colony, and where there are 10 persons per mile, is taken as an illustration of the inutility of constructing expensive roads with locomotives. "There were," says the writer, "three engines on the line, which cost £12,700, and by adding the interest that had accumulated, their actual cost was taken at £4500, each." Now, Sir, this is a price for locomotives on colonial railways utterly unknown. It is true that, in paying for rolling stock in the present market, it is to be nearly as expensive, but a price may have been given for them, but think not: 20000, sterling is an outside price for a locomotive to suit any such road as the one referred to. Colonial engines are unfortunately too large and powerful for shareholders' pockets, being generally exactly the same size and power as the largest engines on main trunk lines in older countries, and intended to make up for the deficiency of bad roads and heavy gradients by extra power and adhesion. The same line that would give its bonds for a double price for an engine would be compelled to do the same for horses, or any other requirement, so that the comparison is unfair.

"English experience," continues the writer, "has established that 30,000 is the average work an engine will perform; and a price may have been given for them, but think not: 20000, sterling is an outside price for a locomotive to suit any such road as the one referred to. Colonial engines are unfortunately too large and powerful for shareholders' pockets, being generally exactly the same size and power as the largest engines on main trunk lines in older countries, and intended to make up for the deficiency of bad roads and heavy gradients by extra power and adhesion. The same line that would give its bonds for a double price for an engine would be compelled to do the same for horses, or any other requirement, so that the comparison is unfair.

The enormous cost of the cost of haulage, which is given at 4s. 6d. per mile. This is so enormous that it must include other items of expense. Exclusive of repairs, it cannot be over 1s. per mile for fuel, oil, and wages of drivers, &c. This is, in fact, the general cost where fuel is scarce and dear, and skilled labour expensive; and certainly on this continent the figures stated are about the average, making a total cost of locomotive power of 1s. 8d. per mile, including 2d. for depreciation, which is rather more than the cost of the interest at 10 per cent. on an engine of 20000, per year, and 104 miles at 1s. 8d.—31.12s. 4d.; making a total cost of haulage per day equal 10l. 13s. 4d., not 44l. 15s. 8d., and the cost per passenger for 26 miles 6½d. each, not 2s. 2d. as stated.

The calculation of cost by horses is equally unfairly stated, no drivers' wages being included, and no provision being made for harness and equipment; instead of 8½d., this will be found to be 10d., or 50 per cent. more expensive than locomotives.

Now, Sir, on the subject of tramways. I should hail with great satisfaction the introduction of any cheaper description of road than the present railway. Not only in the colonies, but in many agricultural districts, and thereby settled parts of England and Ireland, some cheaper railway is a desideratum, and India certainly presents a great scope for their development; but the introduction of horses instead of locomotives is a retrograde step, and not calculated to lead to anything but confusion and difficulty. The earliest railways in America, which averaged in cost about 20000, per mile, now known as the strap road, failed from their want of durability, and the difficulty of executing repairs and renewals, and a cheap iron superstructure, with plain wooden sleepers where wood is plentiful, and cast-iron where it is not, is still to be introduced. The cost of keeping up a road for horse power very much more than for light locomotives, as the action of the horse feet has a continual tendency to pack up the middle of the sleeper, and leave them unsupported at the ends. The weight of the passing train must then either break the sleeper, or oscillate on the middle of the road, increasing the expense of repairs, and not infrequently bending the rails and breaking the spikes. The additional expense of bridging is also heavy, the locomotive requiring neither a flooring nor handrailing, whilst the cheap arrangement in America for crossing swamps, and low land for saving embankments, and preserving the line from the effects of inundations, the scaffolding, or trestle-work, as it is called, is necessarily inadmissible.

In constructing some of the American lines, where heavy works have required to be reached before the permanent line could be possibly laid out to them, a form of temporary railway or tramway has been used, which can be put down very cheaply and answers perfectly well. The rails are from 15 to 18 lbs. per yd., the inverted U shape, with holes punched in the outside flanges, and 16 ft. long. The sleepers used were 15 ft. planks, 9 in. wide, and 3 in. thick. Ordinary ground, one longitudinal plank, laid so as to bring the joint of the rail in its middle, and one cross-tie, 5 ft. long, in the middle of the rail, were laid down, and the rail spiked on it, which bound all together. In very wet places the planks were laid side by side diagonally (to save sawing) 2 ft. 6 in. long, and the rails spiked on them, like a plank road. The cuttings that could not be avoided were cast on leaving a trench 7 ft. wide, with a drain down the middle, and the embankments were "cobbled" up to 6 feet, and trestled above. The cob-work is simply an arrangement of logs, alternately longitudinal and transverse, one tier above the other. The trestle-work is a series of framed or piled bents,

15 ft. apart, surmounted by longitudinal stringers 12 in. deep, on which the rails are spiked. The gauge is 2 ft., and the power locomotive. Such a line as this can be put down for 10000, per mile when rails cost 12s. per ton, and sawn timber 2s. per thousand feet, board measure. The locomotives in use on this road, for moving the earth-work and ballast, had four coupled 3 feet wheels, weighed in working order 6 tons each, and cost about 7000, a piece. Temporary wheels were fixed under them, to move them from place to place, and the other wheels substituted when they were put upon the rails. On such a road as this, passenger carriages would require to have the double truck, or eight wheels, and could be made comfortable for 40 passengers each. A working speed of 10 miles per hour could be maintained; the working expenses per train per mile would be about 2s., and the cost of keeping the road in repair would be about 500, per mile per annum. The construction of the line in question is not north of India would be, I think, undertaken by contractors accustomed to the cheap expedients of American railways, for not over 15000, per mile for a tramway, or 30000, per mile for an ordinary railway, with rails 40 lbs. per yard, and gauge 5 ft., or 5 ft. 6 in. The introduction of horse-power, and the consequent requirement of a well-ballasted road, filled up to the level of the rails, would, of course, cause an additional expense; but the idea of spending 50000, per mile on a line only partially applicable to the locomotive, is to our American ideas somewhat extravagant. One pleasurable advantage of reducing the gauge to 3 ft., is, that an ordinary railway can be laid great advantage of reducing the gauge to 3 ft., is, that an ordinary railway can be laid down over it without interfering with the working of the intermediate tramway, and the materials of the latter when superseded can be taken up and used elsewhere, to open up another district, and develop the traffic to justify the more expensive construction of the railway.—Fredericton, New Brunswick, May 1.

T. V. S.

## ON GOLD AND SILVER EXTRACTION.

Sir,—With reference to my communication, some weeks since, of which a notice appeared in your Journal, and which intimated the success of my new solution-treatment for desulphurising mineral ores, as shown by assays taken on the metallic residuum of a quantity (about 220 lbs.) of matrix, prepared by washing and grinding, and then operated on by that process; those assays having certified to a yield equivalent to 400 ozs. of fine silver per ton of pyrites, produced on the average by 5 tons of like ore, I should ere now have apprised you of the chief matter-of-fact desiderated in the case by the proprietors of this mine, the Wheel Samson, in Cornwall, which yields ore of the same quality in abundance—namely, the real out-turn in bars of silver obtained from the 30 ozs. so treated, but for the want of apparatus to be found in London for reducing such argentiferous ore, or pyrites, in a granulated state, as my process leaves it. The result in this respect, however, be it more or less, in no manner affects the merit or efficacy of my invention, which I claim to be simply proven upon the minor assays referred to, the operation itself having been performed upon a full working scale; and it must depend obviously upon the extent of precious metal incorporated with any particular matrix, what the exact out-turn of it under my process would be. That process will avail to secure it in any quantity therein really contained.

Measures are in progress to ascertain the amount of silver recoverable from this operation, which, so far as my treatment goes, has been now some time completed. It should, perhaps, be added, as due not only to my discovery but for the satisfaction of the shareholders of this mine, that some of its lodes have been long known to be impregnated in a high degree with argentiferous matter; and it has been worked in small sample of the ore, from which I found a silver deposit, after extracting by my solvent the matrix of sulphur in which it was minutely diffused, and which, if separated by the process, hitherto usual, of dry fire heat, would have carried off the metallic particles by the force of sublimation.

The proprietors of the Wheel Samson may be now congratulated that they can acquire the means of working their mine to abundant profit, even upon the lodes thus developed; and I have proved by my own table assays that another lode exists there far richer, and, as I am told, larger, than that which gives the result here set forth.—King's Mead Cottages, New North-road, May 21.

P. A. GOREBOY.

## [ADVERTISEMENT.]

## MINING INVESTMENTS—IMPORTANT TO CAPITALISTS.

Sir,—Owing to an accident, I was obliged to return from my tour of inspection through Devon and Cornwall sooner than I intended. Being now partially recovered, I take the earliest opportunity of laying before the public a list of the Cornish and Devon Mines I visited during my late tour, on most of which I am at liberty to furnish full reports, for which I charge 2l. 2s. The second list I send you are mines seen by me at different periods when I formed my opinion as to results, since which time I have narrowly watched their reports, and am now prepared to give general hints as to their future prospects, accompanied with my views on many other mines that I have from time to time surveyed at surface; for the latter list I charge 1l. 1s. Parties requiring a full report of any mine in the first list will get report and this list for 2l. 12s., accompanied with a letter of general remarks, or my views on the formation of metallic substances in lodes, and the gossans on the back of them, which are expensive and unfairly dealt with, as I am now preparing with a list of the expenditure, even to every individual employed on mine, including running materials, new machinery excepted; and I have no hesitation in publicly stating that where mines exceed my estimate, something is going wrong—this I have openly observed to the managers when on the mines, and have but seldom failed in discovering the origin of the flaw or exorbitant charges so often complained of by shareholders.

NICHOLAS ENKOR.

Wivelcombe, Somerset, May 19.

A List of the MINES EXAMINED during my late tour in Devon and Cornwall

Devon Burra Burra	North Frances	South Wheal Ellen	Wheal Ludcott
Tavy Consols	Grambl. & St. Aubyn	Tehidy	Molland
North Tavy	Virtuous Lady	Condarrow	East Providence
South Carn Brea	Devon Wheal Union	Tolvadden	South Herland
West Francis	Wheal Zion	Wheal Margery	Silver Vale
Wheal Buller	East Wheal Russell	Wood Mine	East Treloas
North Basset	West Wheal Seton	Wheal Wrey	West Fowey

A List of DEVONSHIRE MINES inspected by me underground at different periods:

Bedford Consols	Hill Bridge Consols	East Sortridge	King of Dart
Bedford United	Devon and Cornwall	Wheal Emma	Frank Mill
Devon Great Consols	Devon Wheal Buller	Silver Brook	Whitcomb Consols
Colliacomb	Lady Bertha	Exmouth and Adams	Wheal Treely
West Colliacomb	Gawdon United	Arundel	Brook Wood
Sortridge Consols	North Wheal Robert	Queen of Dart	Wheal Hamblin

A List of CORNISH MINES surveyed by me underground at different periods:

South Devon Consols	Buller and Basset	South Frances	Carvath
Latchley Consols	South Buller & Basset	West Frances	Great Polgoth
South Bedford	Penruthal	West Daniel	Great Dowgas
East Gwennap Lake	United Mines	North Grambler	Tregadock
Wheal Edward	Wheal Clifford	Old Cupid	Treware
Wheal Arthur	Clijah & Wentworth	North Crofty	South Gars
Okel Tor	Wheal Trefusis	North Pool	Wheal Powell
Calstock United	Wheal Grenville	East Tolgus	East Falmouth
Wheal Tonkin	Newton	Old Tolgus United	East Rosewarne
Kelly Bay	Marke Valley	West Stray Park	East Alford
Old Callington Mines	Gonsenema	Wheal Harris	Great Alford
Great Sheba Consols	Graddock Moor	Wheal Harris (St. Agn.)	West Alford
Wheal Martha	Caradon Consols	West Polberr	Gilmar
Wheal Bray	Wheal Pollard	Bolling Well	Wheal Tremayne
Great Tregone	North Wheal Wrey	Rosewarne United	Providence Mines
Wheal Jane	Butterdon	Wheal Hender	St. Aubyn and Grylls
Great Badden	Penhauger	North Rosewarne	Trumpet Consols
Swanpool	North Trelawny	East Fowey Consols	Wheal Love
Wheal Basset	Trethwa	Par Consols	Wheal Trevena
East Basset	Wheal Venton	Great Crinnis	North Wheal Vor
Wheal Buller	Wheal Trelawny	West Crinnis	Pendren
Bell and Lanarth	Trethane	South Cudra	Drake Walls
Penruthal	West Par Consols	South Crinnis	

Wivelcombe, Somerset, May 19.

N. ENKOR.

## A RUN DOWN WEST.

Sir,—Human life is generally held sacred in England. If a man poisons his wife, the law so hedges him about with forms and technicalities, that Jack Ketch with difficulty gets hold of him. Albeit, there are exceptions to this rule, as well as to others, as the many frightful deaths through coal pit explosions testify. You have spoken out like "a man and a brother" upon this subject, and I now ask you to speak as loudly against the reckless waste of human life in Cornwall, as shown by the following cases:—From Chacewater and its environs there branch out several public footpaths, which lead to Blackwater. Within 20 yards (and often within one yard) of these paths are 30 open shafts, which are never used. Last Sunday we were passing along one of the paths, when one of them stepped backwards a few feet, and was instantly struggling in water 30 fms. below the surface. The other boy gave the alarm, yet (can you believe it?) the boy was left to his fate until Monday morning. "How much is a man better than a sheep?" says the greatest authority. And again, "If a sheep fall into a ditch on the sabbath day, do you not straightway pull him out?" This boy's misfortune was, that he was not a sheep. Had he been a wcolbird, he would have had a chance for life ere he became mutton: as it was, he was fished out from 10 fms. under water, 14 hours after he had fallen in, and not until men had gone to bed and slept their usual time was he got out, and given to his widowed mother, whose only son and only support he was. A mine captain close by was asked for the loan of a plank and a rope, to help to get the poor boy out, when he replied, "This is no day for that at all," and refused to do so. If the same captain had come to me next day for the loan of a rope, for a Newgateon purpose, I fear that I should have obliged him. And if such a shaft had been left open near London, and a boy had fallen in and been drowned, it would have been worth a hundred pounds to his mother, and half as much to some solicitor. The question then arises—Whose duty is it to cover over these old shafts?

Again, as seen a young fellow as Cornwall could produce took a pitch in that "man-murdering hot-water lode" in United Mines, where men work in a state of nudity, and have ever and anon to run to the shaft to breathe, and have cold water poured over them. He was hale and hearty at 6 A.M., and dead at 12 A.M. Do the shareholders need "filthy lucre" so much, that they cannot wait until this level is communicated with the other shaft, and so make such miserable scenes impossible? Many a man has gone to work on that lode in health and strength (tempted by the fabulous price given for driving the end), and a few weeks has made such an ironed upon his constitution that no money payment could for a moment be called an equivalent. The question here is—Can no mechanical contrivance be found to meet this great necessity?—May 19.

ABINADAR CROUCH.

## WINDING-UP OF COMPANIES—IN RE ESGAIR LEE.

Sir,—I omitted to state in my letter, by your kind permission appeared in last Saturday's Journal, that my petition for winding-up this company was not solely as a shareholder, but also as a trustee, in a double capacity, with serious responsibilities; and that, as such trustee, I had executed an assignment, whilst still in Paris, so far back as April 10, 1886. I may most advantageously there could not be a more justifiable petition, complying in all respects with the Joint-Stock Companies Winding-up Act, than I presented for winding-up this company. If it be that it is in the power of a branch of the executive government irrevocably to decide a case apart from its merits, in direct contravention of the enacted will of Parliament, we have at last arrived at a state of positive wrong, having no remedy. This state of things should be known to the

subscribers of your influential Journal, most of whom are, I believe, made subject to the conditions of about the worst framed Act in the statute book—the Joint-Stock Companies Act.—*Jamaica Coffee-house, Cornhill, May 21.*

### NORTH WHEEL VOR (BREAGE, CORNWALL).

Sir,—In your Journal of the 9th inst. my attention was drawn to a melancholy accident and loss of life, occasioned by the bursting of a boiler on this mine, and causing, as then estimated, loss to the adventurers of about 400l. From authentic information I have since received, I find the cause to have been the neglect of the engineman in feeding the boiler, and which terminated so fatally to himself and two others, at the same time seriously injuring two men then also on the premises. The effect of the accident was the immediate stopping of the mine, the water having risen very rapidly throughout the several levels; but it is worthy of record, and of great credit to the agents and men, to find that by their united energies the damage was repaired, and the engine again at work at the expiration of ten days from the accident, and at a cost of 1000l. less than first estimated. Within five days the mine was in full work; on the sixth the several contracts and bargains were set, and the workings throughout the mine resumed. In making my enquiries, I took the opportunity of ascertaining that the progress and prospects of the mine were most satisfactory, and the adventurers appear to have much reason to be indebted to the unceasing attention of their pursuer (the promoter of the concern), who has evidently shown great ability in directing their interests. Great credit is also due to the agent (Capt. White) for the experienced and energetic manner the company's works have been laid out; and it must be gratifying to the company to find their annual sales of tin progressively increasing, and that a necessity has arisen for additional stamps, in course of erection, to be supplied by tram ways now being laid down; and it is fully expected, from existing appearances, that the present year will place the mine in a profitable position. A. SCHICKEL.

### NATIONAL BRAZILIAN MINING ASSOCIATION.

Sir,—I am rejoiced to find that our prospects appear so encouraging, and hope that a large dividend may speedily follow the present cheering intelligence; in the mean time, will you, with your usual courtesy, permit me to make a few remarks, which, as I have a not contemptible stake in the concern, and having had considerable experience in matters relating to Brazil and its laws, may not be altogether uninteresting to my fellow-shareholders.

Possession has been gained of all the properties—excellent news!—but a moment's consideration prompts the query, is it a possession legally secured and consolidated with the original title-deeds in our hands, and the judgment of a Brazilian court in our favour? If so, has the manager and receiver placed a notarial copy of the *acto de posse* on the table of the office, or is he a mere dummy? Or, is it that Mr. Hitchens has been admitted, and resides on the properties—in plain language, the victim of a ruse practised by those who, being left in charge by Mr. Oxenford, deemed it a profitable opportunity to throw the burden of expenses, and their own salaries, on the shoulders of his opponent. Are our legal advisers so ignorant as not to know that a summons on Mr. Hitchens, before a neighbouring *juz de paz*, to produce titles, which, if he does not possess, may be followed by an immediate ejectment; and that when more money has been spent, improvements made, machinery erected, and gold extracted, the whole may "at one fell swoop" fall into the hands of Mr. Oxenford. I ask again, are our legal advisers so ignorant as not to know this, or knowing it, are they laughing in their sleeves, and pocketing the fruits of our credulity?

It is very satisfactory to find that Mr. Oxenford, instead of being a large creditor, is now reported to be a debtor to the association. Assembling such a large amount, and that the enquiry he courted, and the offer that he made of settling all by arbitration, has not been eagerly accepted. How is this? An explanation would be very satisfactory; as would also information upon several other points, among others, as to the employment of the funds of the association, which, with the sum obtained from the recent sale, and the 12,000l. secured, must be now in a most flourishing condition. In conclusion, I trust that all this good news may be really good; that legal and undisputed possession of the properties has been gained; that 12,000l. has really been secured; that Mr. Oxenford is indeed a debtor instead of a large creditor; and that the drain caused by law expenses is now finished. But, Mr. Editor, I own that my heart sometimes misgives me; the golden prospect doth oft appear to me dim and shadowy, and the dreadful supposition arises, that, after all, this may prove to be but another squawk from my old friend "the pig in a poke."

Leeds, May 20.

A SHAREHOLDER SINCE 1835.

### PORT PHILLIP AND COLONIAL GOLD MINING COMPANY.

Sir,—Having seen, in your Journal of May 9, five lines of meagre extract from the last dispatches of Mr. Bland, the managing director at Melbourne of the above company, with reference to certain new contracts he had entered into to erect a quartz crushing establishment at a place called Clunes, and also to take on lease certain mineral grounds there, I judge for myself as to the probable results of this new move of our directorial manager, who hitherto has so miserably failed in all his new schemes, on behalf of the company. As I expected, however, a perusal of the dispatches was refused; for I have invariably found, both at the Port Phillip and Mariboula offices, that the office practice is just the reverse of what the Chairman says it is, when questioned at a public meeting, it being his custom then to represent that every facility is afforded to shareholders requiring information as to the affairs of these companies.

I think, however, I may safely promise my fellow-shareholders that another requisition will shortly be sent in, to require the calling of an extraordinary general meeting; and I also think I may with equal safety promise that this time the tenor of the requisition will not be mislaid, as it was last year, in the official notice issued by the board in order to call such meeting; because the proceedings I recently took in the Westminster County Court against the Chairman of our company, in order to recover the costs of a counter advertisement, rendered necessary by that official misstatement, were put at an end by the defendant paying into court, on the morning of the day on which the cause was set down for hearing, the full amount claimed, to get either with costs.

You will, I am sure, confer a favour on many of the Port Phillip shareholders resident in the country (who chiefly consult your Journal for information as to the state of the company's affairs), by inserting this letter, and at the same time oblige—  
15, Charles-street, St. James's, May 20. CHRIS. RICHARDSON.

### Meetings of Mining Companies.

#### NORTH DOWNS MINING COMPANY.

A general meeting of adventurers was held at the offices, Threadneedle-street, on Wednesday, Mr. P. D. HADLOW in the chair.

Mr. DUNFORD (the secretary) read the notice convening the meeting.

A statement of accounts for four months, to March 31, was submitted, from which the subjoined is condensed:—

Balance last audit	£330 11 5
Mine cost, Dec. to March	1159 15 9
Merchants' bills	469 9 9
Lord's dues	26 14 10
Balance of interest account	33 18 11 = £2511 10 8
Calls received	938 15 0
Ore sold	347 15 1 = 1286 11 1

Balance against adventurers £1224 19 7

Reports were read from Capt. Chas. Thomas, Thos. Trevillion, and John Prince, from which the following is abstracted:—

The mine is being worked with good judgment and economy, so far as can be with the present number of men. I need not say that if funds are available it will be more economical to employ as many men in opening the mine as the several points require, than to employ a smaller number of men, requiring a longer time to accomplish the same work. By energetic and persevering working the mine will probably be found of value, especially at deeper levels.

The shaft is about 500 fms. in length and a quarter mile wide, and embraces several levels, but the main lode in operation at present is the lode referred to, North Downs or main lode; and at present workings are at the eastern end of the set, where they have, in about 180 fathoms in length, three large cross-courses, which intersect the lode at almost right angles. It is stated that there are some good bunches of copper ore come down in the bottom of the 20, and especially in a winze which is down 7 fms. under the level; but, there being so much water in the level and winze, it was impossible for me to see it. The 10 is driven east from Bennett's shaft 36 fms., and for nearly 20 fms. through a productive lode, yielding on the average about 12l. worth of copper ore per fm. At present the lode in the end is disordered by a slide, which is a common occurrence in this mine, and an improvement is again shortly expected. The set, on the whole, presents a promising appearance. Although the returns are small, they will nearly meet half of the current costs; but are long on may expect an increase in the returns. There is a lode south called the Coalley lode, and a cross-cut has been driven towards it for a considerable distance, and 15 fms. more would reach it; this point is doubtless an important one, and such work might be done for a trifle; and it might discover a good lode. Capt. Trevillion strongly recommends that it be immediately resumed. On the whole, the mine is comparatively inexpensive, and the work in operation is as it should be to prove the mine effectually, which it is hoped will be continued with vigour.

At present, we are working on a limited scale, but to a profit. We have not the proper means of returning the tin in sufficient quantities to make this part of the property pay as well as it would do. If it be sold in a rough state it must be done at a great sacrifice. Should North Downs turn out so good during the next six months as the present indications justify us in anticipating, it will be necessary to erect a winding-engine, to save the great expense of horse hire, when a crusher and stamping apparatus might be attached, and Pever cannot fail to pay well for the amount expended. The present returns will be from 60l. to 100l. worth of tin a month. The engine works well, and keeps down the water by going 4½ strokes a minute.

Mr. DUNFORD read the following report from Capt. Prince, which brought up the state of the mine to the latest period:—

May 16.—I beg to report, for your information, that the 30 end east has passed through the cross-course, and should the flookan maintain its usual dip, we shall in a few days reach it. The ground is improved, and so is the part of the lode seen; but, as we have not in our former reports a very good ground can be expected before the lode is met with, immediately to the east of the flookan. The ground in the 20 cross-cut is improved, and the price is reduced from 7l. to 5l. per fm. We cannot now be far from the eastern cross-course (see plan), in intersecting of which we anticipate that the lode will be drained in the bottom of the 10 to the east of Bennett's. No alteration has taken place in the eastern rise in the 10; but in the western rise, behind the stopes, we have met with talose slate, in which the lode never fails to be productive. Should this formation, therefore, continue, good results in the rise will be realised. The lode in the 10 west continues small, but the ground about it looks well. At Pever's, no lode has been taken down during the past week. We shall sell the parcel of tin ore on Saturday next.—J. PEARCE.

Mr. DUNFORD observed that, since the accounts were made out, there had been a small sale of tin ore, price realised 37l. 16s. 5d., and which would come into the next account. Assuming that all the calls had been paid up, they would have had a balance in favour of adventurers of 1005l. The next cost-sheet would be about 400l., as it would include the tribute balances.

The CHAIRMAN, in moving the adoption of the reports and accounts, wished to impress upon the shareholders the necessity of supplying them with the means of paying the next cost-sheet, as he would not put his name to any more bills, and they had been going on from hand to mouth for a long time, the calls never having been made until they had previous liabilities to the same amount to discharge, leaving nothing to go on with. If the calls in arrears were now paid, they would have a certain sum of money to carry on operations; and upon the next occasion they would consider

the further amount necessary to raise to work the mine vigorously. The bills he had referred to as signed by the committee were not the ordinary ones drawn by merchants, but by the pursuer to pay the labour cost.—The Chairman then submitted that the reports and accounts be received and adopted.

Mr. HADLOW seconded the resolution, which was unanimously carried.

The CHAIRMAN said the next question was regarding the forfeited shares, and it was considered a limit should be put upon the time of leaving them, and that they should be distributed amongst those that paid the call now due. The number of forfeited shares were 191, and it was proposed to issue them *pro rata*, at 1l. each, to such of the shareholders who paid up their call on or before June 1 next, at which price they would be a boon; but so long as they were known to be on hand, they were calculated to keep down the market. The following resolution was then submitted:—

That the 191 forfeited shares be offered to the shareholders at 1l. per share, in the proportion of one forfeited share for every ten shares held by them, on the condition that the applicants for the same shall pay for such shares, and also the call due from them, on or before the last day of June next.

Mr. ASHLEY seconded the motion, which was unanimously adopted.

The CHAIRMAN next proposed that after June 1, in the event of any of the shares remaining on hand, the committee be authorised to offer them at the same price to those who had paid.—Carried unanimously.

Mr. DUNFORD observed that the report from Capt. Trevillion was very favourable indeed, he rarely found, from so young a mine, three reports so satisfactory. All the reports recommended the resumption of the cross-cuts, which they had been kept back from doing through poverty.

Mr. CUMBERSON considered it advisable that they should have a little more local supervision, as they were principally London adventurers; indeed, he believed there were only one or two residing in the neighbourhood, who had recently joined. He believed Capt. Prince had done the best in his power; but he would recommend that Mr. Francis Pryor, of Redruth, be appointed the local manager, as he would undertake the duties for a small sum, and was resident within a mile and a half of the mines.

Mr. BRADLEY was of opinion that if Mr. Pryor was appointed the manager of the mine, to see that the operations were carried on for the benefit of the shareholders, it would strengthen the hands of Capt. Prince, and give great satisfaction to the adventurers.

After a lengthened discussion, the appointment of Mr. Pryor was unanimously carried, and a vote of thanks to the Chairman terminated the proceedings.

### KELLY BRAY MINING COMPANY.

The quarterly general meeting of shareholders was held at the offices, 37, Austin-friars, on Thursday, Mr. FIELD in the chair.

Mr. KING (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.

The financial statement from Jan. to end of March was produced, from which the subjoined is condensed:—

Labour cost, Jan., Feb., and March	£1394 2 4
Merchants' bills	564 15 1
Lord's dues	149 5 1
Balance of steam-engine	500 0 0
Merchants' bills up to January	1450 18 11 = £4059 1 5
Balance in hand last audit	£ 643 16 4
Back carriage	62 14 7
Call made, and arrears of call	405 15 0
Sales of ore	1648 7 0
Income tax	7 10 11 = 2768 3 10

Balance against the mine £1290 17 7

The following report, from Capt. M. Edwards, was then read:—

May 19.—Since last general meeting, the 100 fm. level has been driven 7 fms. 4 ft. 6 in., and is now extended 43 fms. from the shaft, and 15 fms. east of the winze sunk from the 99; the lode in the end at present is about 2 ft. wide, composed of peach, fluor-spar, mullite, and stones of copper ore, looking very promising, but not sufficiently rich to value. It has, however, recently been showing strong indications of a near approach to a course of copper ore, particularly in the back of the level, where the first improvement is naturally to be looked for, as a shoot of ore is gone down to the bottom of the 99 fm. level; but as doubts have been entertained whether a part of the lode or a branch has not gone off south, we commenced driving a cross-cut in that direction in the 100 fm. level, behind the end, to prove it. This is now extended nearly 3 fms. without yet meeting with anything of consequence; in the last foot or two, however, we have been intersecting small branches of spar, containing spots of mullite and copper ore, which induces us to think that a branch or the south lode is still before us, and at no great distance. An improvement having taken place in the pitch in the back of the 99 fm. level, two months since, induced us to resume the driving of that level, which has since been extended 3 fms.; the lode at present is 2½ ft. wide, and will produce nearly 2 tons to the fm.; we have still upwards of 30 fms. to drive here to reach the western boundary. The 50 fm. level has been driven 5 fms., and is now extended 10 fms. east of the shaft; the lode is 3 ft. wide in this end, spotted with ore throughout, and occasionally yielding good stones of copper, but the ground and lode being hard in this place, it is not favourable to rapid progress. The eastern engine-shaft has been sunk to a depth of 30 fms. below surface, the necessary work, and the level driven 3 fms., nearly to the western end of the winze-shaft; when this is accomplished the men will commence rising against the shaft, which is now in course of sinking, and is 2 fms. below the 15. When this is communicated we can either cross-cut towards the lode in the 30, or sink another lift before, whichever may be thought most proper; but I think the latter course the most prudent, for at a depth of (say) 45 fms. we should not have so far to drive to reach the lode, and a very productive lode is scarcely to be expected at a less depth than that from surface. The tribute pitches have been turning out well lately, considering the number at work. The ground in one or two of the best of them is now nearly exhausted, consequently they do not yield as much ore as before. We hope, however, to raise sufficient to pay the current cost of working until further discoveries are made, and some productive ground opened up, to enable us to make a profit to the adventurers.

The CHAIRMAN said, from the statement produced, they must see they would be compelled to make a call, and one of 5s. would be necessary. He trusted it would be the last, as during the previous month they worked at a profit.

Mr. PETER WATSON produced a fine stone of ore from the 100 end, composed of mullite, fluor-spar, and copper ore; also another from the back of the 99, which gave every indication of success.

The committee, consisting of Messrs. Field, Cumberlege, Mackay, Shirriff, and Peter Watson, were appointed; as also Messrs. Hallett and Ford, auditors.

Mr. WATSON observed that he and his friends were large holders, and that he had taken a deep interest in watching the progress of the mine, and would continue to do so. He was happy to see that Capt. James and Capt. Edwards went on so harmoniously together, which must be satisfactory to all parties. There had been an error in making the last call, it should have been larger.

The CHAIRMAN said this mine had continued to offer great promises, and which, he felt convinced would yet be realised. He trusted this would be the last call.

A call of 5s. per share was made, and a resolution passed to call a meeting on June 4, for the purpose of forfeiting shares on which calls, which were now in arrears, should remain unpaid.

The usual complimentary votes were then passed, which terminated the proceedings.

### CARVATH UNITED MINES COMPANY.

A general meeting of adventurers was held at the offices of the company, Old Broad-street, on Wednesday, Dr. BRATTIN in the chair.

Mr. FOLKES (the secretary) read the notice convening the meeting, and the minutes of the last one, which were confirmed.

The following report, from Capt. Hancock, was next read:—

May 16.—The engine-shaft is sunk to the 40 on the course of the lode; in this level the ends are extended about 10 fms. east and about the same distance west; the lode is from 4 to 8 ft. wide. The east end is producing some rich work for tin; the west end at present is not so good, but there is a promising lode, containing some tin. There is a large lode going down below this level, and containing rich stones of tin. We have set the engine-shaft to sink 10 fms. below this level; to cut a pit at the 40; to cut ground for bearers and elstern; to put in the same, and to case and divide the shaft complete for 110l. We have set a pair of men to rise in the back of this level, east of the shaft, on the course of the lode, to communicate with the bottom of the 30 for ventilation, and to prove the value of the lode. When this is done we shall have opened out a large piece of tin ground below the 30. In the 30 we have a winze sinking about 24 fms. west of the engine-shaft, to communicate with the level below; at present the lode in the winze is poor, but the main part is further north, and the end below will soon prove its value. In this level we are driving east on a north lode, or on a part of the same lode, but there is not enough done to say if it be a distinct lode or not. The lode in this end is kindly ground, yielding some tin, but is not rich at present; by driving on its course we shall prove if it be a separate lode or not. In the 20 we have cross-cut the north lode, and driven on the course of it about 10 fms.; it varies from 2 to 6 ft. wide, and contains tin the whole length. We have also cut the north lode in the 10, and driven on the course of it about 8 fms.; its width in this level is from 2 to 3 ft., and is producing some good stones of tin. Although a great part of the south lode is taken away in the 10, 20, and 30, yet if the south lode should turn out as it now looks, a large quantity of tin may be raised from these levels. We are about to put up 13 stamps' heads more to the present steam-stamps, which will enable us to return more tin from the same quality stuff; the cost will not be much, as we have a great part of the materials on the mine. I would recommend the removal of the pumping engine from where it is now standing to the north engine-shaft; by so doing you will be able to sink the mine much deeper, it will do away with all friction and expenses occasioned by the flat-rods, and will also effect a great saving in coal oil, and all other materials. The underground and surface operations are going on favourably.

A statement of accounts was submitted, from which the subjoined is condensed:—

Balance last audit	£ 649 8 11
March cost, June, 1856, to March	3737 8 1
Compensation for land	150 0 0 = £4526 17 0
Tin sold	£2159 14 10
Copper	79 16 11
Calls received	1587 10 0 = 3627 1 9

Balance against adventurers £ 699 15 8

The CHAIRMAN said the accounts had been very carefully checked by the committee, and found correct.

A SHAREHOLDER wished to know whether the whole of the last call had been absorbed.—Mr. FOLKES replied in the affirmative; with the exception of 12l. 10s. the whole had been paid, and out of that sum a party in arrears had supplied materials.

The CHAIRMAN said they had heard the statement of accounts read, and which were verified by the committee at their monthly meetings, who, in fact, acted as auditors, and gave their best attention gratuitously to the general affairs of the company. He would introduce to them Captain Hancock, who had succeeded Captain Webb, compelled to retire through ill health. Captain Hancock represents that by transferring the engine, as suggested in his report, a large saving will be effected in the consumption of coal, and the power increased. If Capt. Hancock could add anything to his report, he should be glad to hear him, or to answer any questions the shareholders might wish to put to him.

Capt. HANCOCK said he could not add much to the report. It was a large and wide lode, producing tin throughout, but poor, and if the lode should change a little richer, it would make a strong and lasting mine. It looked like a mine that would become rich in depth, and there was from 600 to 800 fms. of maiden ground never touched.

A SHAREHOLDER remarked that, during the last ten months, they had spent 1600l., and if they subscribed another 1600l. he wished to know whether they would then be justified in going on any further?

Capt. HANCOCK was of opinion the sum named would be sufficient to carry them

down to the 60, which he considered would prove the mine, and if matters should not then turn out satisfactorily, it would be for the shareholders to consider the course to be pursued.

The CHAIRMAN said the mine ought not to be looked upon in a despairing way. Although all the anticipations formed by some gentlemen had not been fulfilled, he should be recollected that during the last ten months, while the expenditure had been 3577l., the amount realised by the sale of tin and copper had been 2290l. The mine was not yet by any means developed, and when the engine was moved, as recommended by Capt. Hancock, operations would be more vigorously carried out, at less expense and loss of time in working; but it appeared to him to be a measure very necessary, and estimates for doing the work would be called for.

Mr. BROWN said the engine was put up for the purpose of working the copper part of the mine, and that had failed; but it was not advisable to remove it until they proved the tin lode. The difference of the power gained would enable them to go 30 fms. deeper than in its present situation, and save considerably coal, &c.

Capt. HANCOCK did not think, with the engine in the present position, they could go down to the 60, and the great length of the flat-rods would very likely cause a large expenditure for repairs. When they got up the additional 12 stamp heads, he would no doubt increase the returns.

The report and accounts were then unanimously adopted.

The CHAIRMAN then proposed that a call of 5s. per share be made, which was seconded, and carried unanimously.

Mr. BROWN explained that although it would take about three months to remove the engine the whole time would not be lost, as they would continue sinking the shaft during the erection of the engine house, and the actual time lost might be considered about six weeks.—A vote of thanks to the Chairman terminated the proceedings.

### GAWTON COPPER MINING COMPANY.

The general meeting of proprietors was held at the offices of the company, yesterday, Mr. S. BROAD in the chair.

Mr. EDWARD KING (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.

A statement of accounts was submitted, from which the subjoined is condensed:—

Call of 5s. per share	£1000 0 0
Sale of copper ore	148 10 10 = £1148 10 10
Balance against mine	305 0 0
Mine cost and merchants' bills, Feb.	295 18 5
Ditto, March	190 12 4
Ditto, April	270 13 4
Lord's dues	270 13 4 = 1069 7 7

Balance in favour of adventurers £79 3 3

In the accounts of assets and liabilities, the balance in favour of mine was 370l.

Mr. KING next read the following report:—

Since the last general meeting the engine-shaft has been sunk 7 fms. 3 ft., which is now 11 fms. 3 ft. below the 26, the ground still moderate for sinking; we have not taken down the whole of the lode, but a part, about 3 ft. wide of the south; the north part being very hard would greatly impede our progress in sinking, but as soon as we commence driving in the 50 we shall then cut through it to ascertain its size and character; this part of the lode is composed of blue peach, soft sugar-spar, and a great deal of mullite, but no copper to value. We expect to reach the 50, if all be well, in about four weeks; it will then be necessary to sink 5 or 10 ft. for trip-plat and fork. The south cross-cut has been driven 20 fms. 4 ft., and is extended from the main lode 53 fms.; this south lode has recently been inspected at the adit level by competent mine agents, who have given their opinion from its great underlay, that we have several fms. yet to drive before we intersect it; the ground is still of a favourable and congenial character for mineral, and, judging from the size and appearance of the lode in the adit level and at surface, we have reason to expect it will be productive when cut. The 36 end east has been driven 8 fms. 4 ft., and as the lode is poor we have suspended this end for the time, which is 13 fms. from shaft. The 26 end west has been driven 5 fms. 1 ft. 11 in., and is extended from the winze 12 fms.; the lode in this end is about 2 ft. wide, and much of the same character as for several months past, producing about 1 lb. of ore per fm., and letting out a quantity of water; at this point we have cut a little north in order to see if there was more lode in this section, we have cut a branch but not looking so promising as the lode; the level has been extended where we shall again commence driving. Since the last general meeting I am glad to inform you we have made a very important discovery below the 24: the lode is 6 ft. wide, 4 ft. of the north part will yield 7 tons of ore per fm., worth 6l. per ton, and still looks well. Our last sampling is computed 54 tons, I think the next will be 50 tons. We shipped yesterday 29 tons of mullite, at 12s. per ton.—JOHN GILL.

Mr. KING thought it a very satisfactory report; more particularly when they considered the miserable position they were in upon the last occasion, when it was stated that they would not get in their calls; but he was glad to say that, with the exception of about 190l., the whole had been received. He (Mr. KING) then explained, in a section, the present state of the workings, and that an important discovery had been made in the bottom of the 24, producing 3 tons per fm., worth 6l. per ton.

The report and accounts were then unanimously carried.

Mr. ROBERTSON proposed a resolution that the 448 shares in arrears of call be forfeited, subject to restoration, at the discretion of the committee, if paid within 14 days.

The resolution was seconded and carried unanimously.

Mr. SPATLEY considered the report and accounts most favourable, and that they had now got on the sunny side.

Mr. BRADLEY moved that the qualification of a member of the committee of management be 50 shares, which he considered quite small enough to secure a respectable management.—Mr. CHAMBERS seconded the resolution.

Mr. KING observed that he had induced his own personal friends to take 3000 shares out of the 4000 into which the company was divided; and he considered it essential that they should have large shareholders to represent their interest.

The resolution was then unanimously adopted.

Mr. SPATLEY moved, and Mr. FORD seconded, that Messrs. W. M. Chambers, J. Robertson, S. Broad, B. Seward, and J. E. Mathew, be appointed the committee of management.—Carried unanimously.

Mr. CHAMBERS proposed a vote of thanks to the secretary, for his energy on behalf of the shareholders, and the correct way in which the accounts were kept.

Mr. SPATLEY seconded the resolution, and said there was a great deal of credit due to Mr. KING, for the manner in which the books were kept, which he might say before he had the management were really in a disreputable condition.

Mr. KING, in acknowledging the compliment, was obliged for the mark of confidence placed in him. He had introduced a number of his friends, who had purchased shares at 1l. each; and he believed in three months they would be working at a profit.

A cordial vote of thanks to the Chairman terminated the proceedings.

### WALLER GOLD MINING COMPANY.

The general meeting of proprietors was held at the offices of the company, Graham House, on Monday, Capt. TOMKINS in the chair.

The CHAIRMAN read the notice from the *Mining Journal* convening the meeting, and the following report of the directors:—

In laying a report of the proceedings of the last year before you, the directors think it right to state that they have experienced very considerable difficulty in ascertaining the true position of the company, owing to the confusion and irregularity in which they found the accounts, at the time of their assuming the management in April, 1856. The shareholders will recollect that the company was then found to be considerably in debt, and the directors regret to add that those debts had existed for some time previously, and the dividend declared in August, 1855, could not have been paid out of the profits of the year, as the accounts were not correct. It was resolved that the directors should provide for future working, 40,000 new shares should be offered to the shareholders in public, at 2s. 6d. per share, and that Capt. Tomkins and Mr. Hudson should be deputed to Virginia to settle the debts, and to inspect and report upon the property.

Capt. Tomkins being detained by business, Sir Thomas Roberts, Bart., volunteered his services, and this gentlemen arrived in Virginia a few days after Mr. Hudson. They immediately discovered that there were claims against the company to nearly double the amount originally stated, most of them legitimate, but some of them not; sufficient funds fully to meet these claims, a compromise was entered into, but after some ineffectual negotiation Mr. Hudson returned to England about the end of July. Sir Thomas Roberts continued his efforts, and after much delay induced the majority of











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—Mr. TREWECKE begs to inform his friends and the public generally that his MAP of the above DISTRICT, and a STATISTICAL ACCOUNT thereof for the past 30 years, is NOW READY, and will immediately be sent to any party who may require a copy, on the receipt of 14 postage stamps.  
Dated 21st Lelant, Hayle, April 9, 1857.

### Notices to Correspondents.

•• Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly *read* on receipt: it then forms an accumulating useful work of reference.

**MINERAL OIL.**—Crude oil from coal has been successfully manufactured in London, under a patent dated 1850, but the untimely death of the patentee, and the complication of his affairs, has, for the present, caused its continued manufacture to remain in abeyance; a mode of purifying was also perfected, which, from the same cause, is now dormant, although the machinery, erected at a cost of nearly 5000l. for this important object, is in perfect order, and could at a small cost again be put in operation. The subject is one of such magnitude, and your correspondent is not otherwise so fully engaged, that he cannot follow it, but would be happy to afford any information in his possession to parties interested therein.—T. L.: *Lambeth*.

**VENTILATION OF COAL MINES.**—The introduction of good air doors would, no doubt, be of great importance in the ventilation of collieries, and I think that the invention of Mr. R. Boycott, of Blairstown, appears one of the most practical that has yet appeared, as all pulleys and similar contrivances are dispensed with, and yet there appears equal certainty of the door closing itself, and no increase in the force required in opening it when requisite. It appears, however, that he only provisionally specified, and I, therefore, wish you to inform me whether the idea was not new, or what was the reason the patent was not obtained.—M.: *Newcastle*, May 18.

**IRON SHIP-BUILDING.**—There are various suggestions from time to time on the subject, which have been forwarded to the Admiralty, as well as to ironmasters and shipbuilders. The Government has been remarkably slow in its action. A few months since, Lord Clarence Paget gave it as his opinion that sailing vessels were better than steamers. Many of the naval officers of the present day are very deficient in steam seamanship, and therefore willing to discourage the diffusion of any improvement of which they are practically ignorant. Notwithstanding an examination has to be passed previous to a person becoming an officer in the royal navy, as much nepotism and patronage exists there as in other public departments.

**QUEEN OF DART MINE.**—All the reports received from this mine have appeared in the Journal.

**WREAL GRENVILLE.**—In noticing the meeting of this company last week, it was stated that "Capt. Odgers reported upon the various operations in the mine;" and added that "to work this mine effectively it would require an engine, say from 50 to 60 in. cylinder." This should have been "to work Polgine effectively, &c.," as this is a mine in the Grenville set, but distinct from the two other mines—Grenville and Neulin—now worked by the company. From Polgine large quantities of ore were sold during the last working.

**COLLIERIES EXPLOSIONS AND SAFETY LAMPS.**—"M. P." (Bolton) observes, that Mr. Cookney has totally misunderstood the purport of his communication inserted in our Journal of May 2. His present one is merely a running comment upon the remarks elicited from Mr. Cookney. He states, that the ventilation of collieries is very simple, and that this can be done so effectually that the safety lamp will no longer be necessary. No plan how this is to be effected has been forwarded to us; much that is theoretically right is often found to be practically wrong; every inventor imagines that his plan, if not the *ne plus ultra* of perfection, is a decided improvement on whatever has been put before the public previously. There are many who assume that length of years gives not only experience, but at the same time talent; and imagine that with increased age a corresponding amount of wisdom must follow. Several plans have been proposed for the proper ventilation of collieries; and there are many who are ready with all sorts of propositions so soon as any calamity attaches an interest to any design for the prevention of accident. Many of those that we have seen have been crude, impracticable, and, in many cases, the mere concoction of ignorance and vanity combined, the propounders of them, in too many instances, attaching an importance to ideas which, judging from the value they themselves put on them, are invaluable, but which weighed by others are entirely worthless. If "M. P." could devise some plan for a complete ventilation of collieries so as to prevent accidents, he would be one of the greatest benefactors of the human race. In the meantime we must remind him, that no assertion can be considered as trustworthy until practically tried, and its worth tested.

**PERPETUAL MOTION.**—I observe that a proposition has been made to obtain motive-power by the oscillation of a horizontal tube, arranged with a series of arms and valves; and although the person proposing it may have been more successful than myself, I fear he will find great difficulty in putting the scheme into practice. The valves act properly enough for a short time, no doubt, provided the tube be well balanced, and a good momentum be given at starting, but I could not easily compensate friction, &c., and, therefore, abandoned the idea, and am not now so thoroughly convinced that perpetual motion can be produced.—D. J.: *May 17*.

**RAILWAYS IN THE ALPS.**—Mr. Grassi having proposed the application of the Archimedean screw to locomotives, for taking them up inclined planes, and Capt. Moorsom having given a valuable report upon the practical utility of the latter, perhaps I may be allowed to ask a question or two, which it is of the utmost importance should be answered, previously to the adoption of the system in opposition to the proposals of the engineers who have given their opinion as to the Alpine railway. Would there be any difficulty in giving sufficient strength to the teeth of the bevil wheel, to compensate for the immense amount of wear which it would be required to undergo? And would there be any difficulty in overcoming the friction to which the screw itself could be subjected? If both these difficulties are easily surmountable, the new system could be adopted—at least, until the tunnel shall have been bored completely, but as we must be every moment expecting a higher than that of an ordinary locomotive, it would not do for permanent use. In the calculations given by the inventors, the statement is made by comparing one ordinary locomotive with one screw locomotive; but as on long lines one ordinary engine would be of little service, I suppose one screw would not be more useful. Then, as every addition to the number tells against the screw-engine, I have little doubt that, by the time the requisite amount of power has been obtained, the cost of the two systems would be found about equal; whilst the old method would be of greater utility, both from avoiding steep gradients, and from avoiding the altitude which would be reached under the new system.—J. B.: *Paris*, May 20.

**ANGLO-CALIFORNIAN GOLD MINING COMPANY.**—From the announcement in the last Journal, I perceive it is the intention of the directors shortly to call a public meeting, that Mr. Frankland will be present, and Sir Henry Huntley will attend. I trust we shall have the satisfaction of meeting both these gentlemen: if we attain no other result, we shall be able to discover how two superintendents (one of whom received his education in the royal navy, and the other in the mercantile marine) became qualified to act as such. Apparently, both have, since they have resided in California, been "at sea," and the only geological knowledge they appear to have displayed is their discovery of the rock upon which they have stranded the property of the shareholders. Their mineralogical acquirements I will not speak about, but when they became acquainted with the directors and proprietors of this company, they knew perfectly well how to work the "greens," and although they have stamped but little themselves, we must certainly be acknowledged to have turned out pretty fair "halvans." We have been jugged and bundled until there is nothing left of us but the "skimpings," and this they would again dress. One mining gentleman, I regret, cannot be present—Mr. James Duggan, of Kerry, who, from being a working miner in the employment of the Agua Fria Company, now holds the Anglo-Californian property. How did this arise? Procrastination is the thief of time, and delays, we are told, are dangerous. In their circular, the directors stated that, if they were not put in possession of funds by May 9, the affairs of the company would be hopeless. I would ask, is this the case? We know the worst: why, then, do not the directors at once call a public meeting, and put the proprietors in possession of such facts as they have in their power? As regards Sir Henry Huntley, knight though he be, to prevent them from doing their duty to the shareholders? He has professed his willingness, through the medium of your Journal, to explain his management to the shareholders. Let them give him the opportunity: he is to be found in the vicinity of Hampton Court Palace, and a letter, therefore, will always reach him. The floods and the state of the roads have often prevented him from leaving his hotel in San Francisco to proceed to the mines, and the boats from Hampton to London occasionally ground at Kingston and Putney, and thereby delays must occur; the South-Western Railway, however, is in good working order, and I think, if necessary, after so much money has been expended on Sir Henry Huntley's journeys, that the shareholders would not object to the outlay of a special train from Hampton to Waterloo, provided they were assured that they could have the opportunity and pleasure of seeing and hearing their late gallant and esteemed superintendent.—MILES DE NAVIS: *Full Mail*, May 21.

**LODGE'S DUES.**—The announcement of the liberal lords, in your last Journal, gives good grounds for hope that the articles you have at various times inserted on this subject have not been without their due effect. The Welsh landowners have taken the hint, and found that what was only to be had at 1-15th can now be had at 1-14th. The impetus given to this "step in the right direction" will not be retarded, but greatly encouraged, by such articles as yours of last week; and I beg to say that a set which I applied for some time since at 1-15th, will now be granted at 1-12th. Depend on it, Sir, perseverance will do much, but example will do more. The Cornish lords have indeed set a good example, and it will assuredly be followed. You and they deserve, and have, the just thanks of all true miners, whether under or above ground, as well as those of—CAPTAIN: *May 21*.

**TREWECKE UNITED.**—Observing a notice of the discovery at this mine, in the Journal of last week, I think it necessary to inform the writer and your readers that the mines in question do not adjoin the Greener and Abraham, nor are they in the parish of Gwennar, but situated in St. Kew, adjoining the Old Treburt, which left a profit of 20,000l. or 30,000l. to the proprietors, under the management of Capt. Ennwr. It is to be regretted that "Pick and Gad" should venture a statement which seriously affects the force of his communication, which in other respects is perfectly true.—W. H. GRAY: *St. Austell*, May 19.

**VARIATIONS OF THE MAGNETIC NEEDLE.**—"J. R." (Worsley, near Manchester).—In answer to our correspondent's question as to what was the variation of the magnetic needle in the year 1856—also, as far as observations have been made—what is the variation for 1857—we have ascertained the following particulars:—In 1856, the mean was about 21° 45' west; in 1857, to the present time, the mean is about 21° 40'; and the mean for the year probably will be 21° 35'.

**MINING MANAGEMENT.**—"Justitia" (Llanelli) complains that, now mining enterprise is receiving the sanction of the law, and shows all the elements of future success, yet, owing to the conduct of many of those connected with it, it is being brought into disrepute. He particularly alludes to the case of the Great Cambrian Mining and Quarrying Company, which is now levying its second Chancery call upon the unfortunate shareholders. This concern, he states, was brought out under most delusive aspects: promises were made which were never fulfilled, and the shareholders in this unfortunate concern have been, according to all accounts, most cruelly disappointed in their expectations. The conduct of the brokers in many cases he highly reprobates, and affirms that, in several instances, their only endeavour is to entrap individuals to embark in worthless schemes. There is no doubt that there are many evils which might be remedied. The public themselves should be more careful of their interests. No further comments are here necessary, as in some leading remarks in another column we have drawn attention to the ills that now exist, and pointed out how they might in some measure be obviated.

**MANGANESE TRADE.**—We should feel obliged by being informed of any firm in London or Rotterdam willing to supply manganese at the current quotations.—S. AND J.

**"P. L. M."** (Birmingham).—The large cobalt works at Modun, in Norway, have been several times offered for sale. At no great distance from them is a nickel mine, which is now returning a small profit. The nickel works at Espedal, which were taken up by Messrs. Evans and Askin, in 1847, are now abandoned.

**ANGLO-AUSTRALIAN GOLD MINING COMPANY.**—About six weeks since, you stated, on the authority of the secretary, that an engine had been dispatched to the works. I do not anticipate yet that we could have heard of its arrival. Still, I think that, as advice since that period have come to hand from Mr. Falder, the resident director, in common courtesy to the shareholders, who have exercised such exemplary patience, some information might be afforded us as to what is the name of the locomotion we possess—whether it is rich in auriferous quartz, and what surface operations have been performed. It is now over three years since Capt. Bull left England, and, with the exception of two meagre reports in your Journal, we have not received any accounts, although by the terms of the deed of settlement we were to have had an annual meeting.—Nemo: *Grassland*, May 20.

**SOUTH AUSTRALIAN MINING ASSOCIATION.**—"A Constant Reader" (Aberdeen).—The ore announced in our Journal of last week as having arrived at *Neas*, was from the Barra Barra Mines, the company being called the South Australian Mining Association. An arrival is announced in another column from the Strathgilly Company (Limited), late the South Australian Copper Mining Company. The ore received was 130 tons, in 2355 bags.

**WEST CANNIS MINING COMPANY.**—I have occasionally seen meetings of this association reported in your Journal, but among your list of British Mines I do not remember ever having seen the weekly reports of the agent, who, I believe, is Mr. John Webb, of St. Austell. I was told at the commencement of the present year that they were about to purchase Wheel Regent, and work them conjointly, from which great results were anticipated. The offices, I have heard, are in Birmingham; but no accounts of the mine having been published for some period, I presume it must be defunct. The property, I believe, is considered to be one which, if carried deep enough, would be likely to afford remunerative results. Probably, through the medium of your Journal, some of your correspondents may inform me whether this mine is still working, or "knocked."—ABERDEEN: *May 22*.

**SOUTH TAMAR MINE.**—"A Shareholder" (Exeter).—The difficulty in winding-up this company arises from a claim for compensation.

**OLD TREWECKE CONSOLS.**—In answer to the question of our correspondent of last week, we are informed that the mines are in a promising condition, and likely to prove profitable to the adventurers. Within a short period upwards of 20 tons of antimony ore of a superior quality (from Wheel Regent) have been raised, and are ready for market; and it is expected, from the present appearance of the various lodes throughout the mine, a further and larger supply will be immediately obtainable.

**LEND HILL COLLIERY.**—You have no doubt observed that the Board of Guardians at Barnsley intend, if they have not already done so, to refuse relief to the widows and orphans of the unfortunate men who perished by the dreadful explosion at this colliery. The plea these Pharisees put forward is, that the unfortunate individuals have received aid from the benevolent persons who so promptly came forward at the period of the harrowing catastrophe. I would enquire, what law or justice do these Yorkshire Doherrys act upon? I am glad to see that many who have subscribed express their intention of withdrawing their names, and at the same time their money, if this singular and unjust resolution is carried into effect. If this is allowed, boards of guardians will have it in their power, whenever calamity occurs, to refuse relief, because the recipients have had their first wants promptly supplied by private benevolence, instead of waiting until it is doled out to them by the absolute wisdom of callous official insolence. I repeat, this is a dangerous precedent, and I trust that the committee will see that these poor sufferers are not defrauded of their rights. Is the Barnsley Board of Guardians to contravene the orders of the Poor Law Board, to check private benevolence, and to play all manner of fantastic tricks, in order to relieve their rates? I trust this is a question of fancy, and not of fact. I am sure that the Board of Guardians at Barnsley, and I trust they will combine to bring these irresponsible officials to a proper sense of what is their duty. These bodies in general are not supposed to be possessed of any great amount of intelligence, but, judging from their acts, this appears to possess far below the common average of that ingredient, although I must say that they appear to have a good stock of those qualities which have rendered Yorkshiremen so famous in the works of our older and more modern novelists. With a vengeance, they appear to be in truth "Yorkshire bites."—CARBON: *May 22*.

**STREAM BOATS FOR SHALLOW RIVERS.**—Some time since, you referred to the construction of seaworthy boats drawing only a metre (nearly 40 inches of water), for carrying coals to Paris, but I have never heard that the proposition was carried out practically. However, if small vessels could be made to draw but 40 inches of water, I see no reason why small river boats should not be constructed, drawing 10 inches of water only. Could this be done, many of our rivers could be rendered available for passenger traffic, which are now wholly useless for that purpose. I should be glad if you could inform me the lightest draft which has yet been employed successfully, both for river and ocean navigation.—C. J.: *Exeter*, May 22.

**CARBON-NOVA MINING COMPANY.**—A short time since, I was informed that this mine was about to sell ore, but have not yet seen any account of the sale. The ore, it is understood, may probably have been sold at Amble, instead of at Liverpool, as formerly used to be the case. There is, I believe, a small works at Huncorn, where they purchase parcels of ore, and there are no takers, so that, probably, it has escaped your notice, should they have been sold there. No reports have been published for a considerable period, and I think that the new management should afford some information to the company, as many of the old shareholders would probably bear their just proportion of the liabilities incurred by the two promoters.—SAXON: *Birkenhead*, May 21.

**TANTON MINE.**—In your valuable Journal of last Saturday, I perceive a report of the above mine, signed W. Tom, and dated May 11. There are many statements in that report which startle me, but one in particular is of such an astounding nature as to induce me to believe that if Mr. Tom saw the lode in the sink under the 25, which he describes as having increased in size from 10 in. to 2 ft., he certainly does not know copper ore from spar, or the lode must have changed tremendously in two days, for I myself was in the same sink, winze, stope, or what Mr. Tom may be pleased to call it, on May 13, and although the lode may have run 2 feet wider, the difference in Mr. Tom's value of the lode, on May 11, and mine, on May 13, is just that between 25l. or 30l. per fm. and nothing, for when I saw it on May 13 it was of little or no value, nor does it seem to have been for a very considerable time, if ever, below the 25 fathom level. Mr. Tom states, also, that on May 11 they were stopping in the bottom of the 25; this was not so on May 13, and the level was on that day so filled with stuff as to preclude the possibility of seeing the lode under the floor of the 25. One thing I know, that in the end of the winze alluded to the lode is not worth anything. I am truly sorry that the reports from this mine have not been of a more moderate character, as many portions of them cannot be borne out by facts. I trust, Mr. Editor, that I think that the new management should afford some information to the company, as many of the old shareholders would probably bear their just proportion of the liabilities incurred by the two promoters.—R. WILLIAMS: *May 20*.

## THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MAY 23, 1857.

From the immense preponderance of evidence against the advisability of Rating Mines, given before the select committee appointed by the late House of Commons, we had hoped that it would not again, at least for a considerable period, have been our duty to return to the subject. We regret that our hopes have not been realised, and more especially as it is again the Member for a mining district who has proposed the re-appointment of the committee. It is true that in the present instance the opinions of some of the witnesses upon the former occasion appear to have been taken into consideration, since it is now proposed to lay the impost upon the royalties instead of on the mines direct; but we contend that numerous arguments have been, and can be, adduced to prove that there is no justice whatever in the attempt to further rate metalliferous mines, whether directly or indirectly. However, the new committee are now chosen, and consist of Mr. KENDALL, Mr. MICHAEL WILLIAMS, Mr. G.

CAVENDISH, Mr. CHILDE, Mr. BOUVIER, Mr. PHILLIPS, Colonel PENNANT, Mr. RIDLEY, Mr. SPOONER, Mr. HUGHES VIVIAN, Mr. HUMPHREY, Mr. HENRY HERBERT, Mr. COLVILLE, Mr. WILLIAM ORME FOSTER, Mr. DAVEY, and Mr. DUDLEY FORTESCUE. It is, therefore, the bounden duty of all having the interest of mining at heart to use their most strenuous exertions to prevent any bill for rating mines, in any form, from becoming law.

It has been argued by the promoters that the effect of the measure will not be felt by the mining community, and when we consider that this line of argument was adopted in support of the Rating of Mines Bill, 1856, in which the taxation was to be direct, and yet had a powerful influence upon the minds of many, how much more weight will be attached to this statement when it is simply proposed to rate royalties. It must, however, be borne in mind that the question should not be viewed in this light at all, but that it should be regarded as an indirect tax upon mining enterprise generally; and although the mining community might not individually feel any direct pressure from the imposition, it is certain that the passing of such a measure would have the effect of causing the abandonment of many promising progressive and speculative mines. It is said by those in favour of the bill that the lord incurs a risk by allowing his property to be mutilated, without any other remuneration than the prospect of a proportion of such profits as may be realised; but we shall hereafter endeavour to prove that this is not the fact, since too frequently the adventurers do not realise the smallest amount of dividend until years after the lord has commenced receiving returns.

It being the invariable custom to pay lords' dues upon every parcel of ore sold, without consideration as to whether such ore has been raised at a loss or at a profit, it is evident that the taxation of dues would press much more heavily upon mining than the taxation of profits; for, as it would be impossible to compel the lords to take a fixed maximum royalty, the rate would commence from the earliest period of the mine returning ore, instead of from the time of its reaching a dividend-paying state. This fact must not be lost sight of, since it will undoubtedly be proved, should a bill be passed for rating royalties, that the burden will ultimately fall upon the adventurer; and further, that the adventurer will have to pay a far larger sum to the lord than he would be called upon to pay were the taxation direct. As an instance, we will suppose a mine to be working at 1-20th dues, and the rate to be levied upon 600l. for the year. It will be apparent that there must be 12,000l. worth of ore raised by the adventurers; and that, although the adventurers may have lost 500l. per month—an amount frequently lost during the period of a mine returning but 1000l. worth of ore per month—the lord will receive 600l., minus the rate, clear profit.

Now, the lord will argue, and we think not very unjustly, that if he pay the rate, he reduces his profit the amount of that rate, and as he has agreed for a certain percentage, he is entitled to the amount which that percentage would produce. This being his opinion, he will take the earliest opportunity to make such arrangements as will secure him at least 600l. net upon every 12,000l. worth of ore sold, and he can only do so by raising the royalty. As this would be the inevitable effect upon the adventurer, we contend that our assertion, that the taxation of royalties would be quite as oppressive, if not even more so, than the direct system, which it was proposed to introduce during the last parliament, is not untenable, and that the idea of laying the burden, nominally, upon the lord is only an endeavour to effect the same object, as was attempted on the former occasion, in a less open and legitimate manner. In the instance of the mine alluded to, and assuming the loss to be 500l. per month, the gross injustice of further taxation cannot be disputed.

The adventurers who have undertaken to work a mine which distributes 18,000l. per annum amongst the working classes are to be further taxed for poor-rates, although they are actually expending their money in keeping a large number of men and their families from becoming chargeable upon those rates. If this be the principle to be adopted by our legislators, there can be little doubt that the number of our poor will be considerably increased, and that the spirit of independence which is now exhibited by the working miner perhaps more than by any other portion of the working classes, will be in a great measure checked.

It would appear that the large amount of profit returned by our regular dividend-paying mines has induced the opinion that an additional burden can be thrown upon all mines with impunity; but a little consideration of the question will entirely dispel this idea, since it will be found that not more than 20 per cent. of the public mines in work return dividends, and as no mine can continue productive for ever, the greatest amount of encouragement is necessary to cause the opening up of new and untried districts, to replace the old mines as they become exhausted. Again, the exportation of mining produce, in the shape of metal and manufactured articles, is continually upon the increase, and unless the same exemption from taxation as has hitherto existed be maintained, many mines which there is little doubt will ultimately become highly valuable will be abandoned. It is to the mining and manufacturing industries, and more especially to the former, that England owes much of her commercial prosperity; and this fact being now evident to the legislators of foreign countries, it has become the general policy of their respective Governments to remove every impediment to the perfect development of their mineral wealth. Within the last ten years Prussia has reduced the taxes levied upon mines to about the one-fifth part—levying now little more than is where she formerly took 60s.; and the Governments of France and elsewhere have also been gradually adopting measures to secure the advancement of mining.

It is true that the reforms in all quarters are not carried out in the same spirited manner, but there can be no question that the opinion is very general that mining aids materially in increasing the prosperity of a nation. Yet, with these facts before him, we find an attempt made by an English Member of Parliament, and one, too, representing one of our greatest mining districts, to introduce a bill for augmenting the burdens which the miner has to bear, apparently for the sole object of benefiting a few landowners of the district, regardless of the effect of the measure, either upon the other portion of the inhabitants, or upon the country generally. Of the new committee, however, there are some who, unless they act directly in violation of their promise, will use their best endeavours to secure a fair and impartial consideration of the subject before reporting on its merits, and we trust that their efforts, combined with the exertions of the miners and mine adventurers themselves, will not only be the means of preventing the passing of any measure for rating mines, directly or indirectly, to the poor-rate, but settling the question incontestably and for ever.

Notwithstanding the importance of our mineral branches of industry as a source of wealth, yet mining, it cannot but be admitted, is somewhat in disrepute; for this state of affairs various causes are assigned, sometimes it is stated that a stigma is cast on an adventure owing to the false representations of the promoters, now the brokers and middlemen are blamed, and lastly, great culpability is sometimes attached to the agent on account of the glowing and fallacious reports which are occasionally put forward in order to entrap the public, and induce a number of gulls and willing dupes to part with their money. In our opinion, the greatest blame attaches to the adventurers themselves: no one purchases an article at a shop unless he has thoroughly examined it, and judged whether it is of the value represented; in many cases he may be deceived, but then he has taken the proper precaution to protect his own interest, and has only made a bad bargain, which the most careful and cautious of us is liable to. But how is it when he traffics in mining shares? In the majority of instances, deceived by delusive reports, he imagines he shall grow suddenly rich, without the labour of industry, and it is playing on this feeling which has allowed so many knaves to enrich themselves at the expense of the vast herd of fools. If dividends are paid they are satisfied; never attend public meetings, or exercise the slightest supervision over those whom they have elected to direct and guide their interests. It is the laxity and inattention on the part of adventurers and shareholders in mines, banks, and railways, which allow gigantic frauds to be committed; many small properties have had their Ronsos and REDPATHS, who would have plundered to as great an extent as these convicts have done, had the amount they were entrusted with been sufficiently large. As it is, in several instances in a proportionate rate, they have appropriated to their own personal uses larger sums. The tone of public morality, as far as regards speculation, it cannot be denied, is a disgrace to the British nation. The character of the honest trader is now no longer the boast of Englishmen, the examples of the last year showing that we are equally as bad as our neighbours, although the system of Bourse speculation, so rife in France, has not yet here, as there, contaminated all classes of society from the prince to the peasant. This evil, we here reiterate, can only be remedied by the shareholders exercising a due vigilance and supervision over both directors and auditors, at the same time they should investigate the merits of the adventure with which they are about to be connected, and especially

guard themselves against their own cupidity and delusive ideas. If this advice be followed out in the integrity with which it is offered, we shall then not have to record the disasters of so many unthinking dupes, or the fortune of a few successful rogues.

Among the harpies who in general prey upon the vitals of all public companies are those individuals who style themselves "promoters," and who, out of preliminary expenses, endeavour, and in some instances successfully to appropriate to themselves the lion's share, though what duties they have performed it is difficult to arrive at. The shareholders of the Unity and the Western Bank must have been surprised at the preliminary expenses in both these undertakings. Among the promoters of the latter we recognise two of our mining friends, both of whom have been connected with defunct companies, the one the Dalecarlian, and the other the Asturian. The former had but a brief career, while the latter carried on a long lingering existence, and the promoter there managed to become a liquidator, then a trustee, and in all the phases of its existence had always a finger in the pie. Many of this class are totally ignorant of mining, nor do they care for it as an enterprise in any way, their only object being to traffic in the shares, to obtain a good price for their scrip, careless whether the adventure be carried on or not. There is something to be made for promoting, a little may be made at the winding-up, or the resuscitation, as the case may be—in fact, "company making" has become a trade, and there are many individuals who abandon or neglect respectable professions to follow this questionable calling.

Wherever these species of commercial traders are concerned, an investigation into the soundness of the speculation is necessary. Sometimes they have good properties in hand, the value of which cannot be doubted. This is, however, of secondary importance to them. They erect machinery where it is not necessary; incur needless expenses; obtain men to write delusive reports,—for, we regret to say, such has been the case,—they spread most flattering and encouraging intelligence, recommending the undertaking as a sound investment to the public, which there is no doubt it would have been, in many cases, if properly managed. Their shares are, however, carried up to a premium; the majority are sold; a few are kept for the sake of appearances; the shareholders are called together; the agent, a willing tool, is not present; the report of the directors is read, and the unfortunate proprietors are told that the committee were not miners, and it was a great error of judgment on their part in allowing themselves to be guided by the agent, and thus the comedietta ends.

It is useless here to mention the number of mines where this farce has been gone through; in too many at this present time the system is being carried out. The Attorney-General's bill will, no doubt, make committees of management more careful for the future of the moneys entrusted to their charge; but nothing will more conduce to a healthy spirit of commercial enterprise, than constant caution on the part of the shareholders. With regard to mining especially, it is a source of regret to find that occasionally among those recognised as respectable men, and who direct the market in London, a spirit of fair dealing is not exercised towards their clients. Shares have been sold, and the money obtained for them, previous to their having been purchased; and when these could not be delivered, excuses and subterfuges of all grades have been resorted to. This has occurred not only in one instance, but in several, and is now a matter of public comment. It becomes incumbent not only on those who are concerned in mining, but likewise all well-wishers to mineral enterprise, to put an end to these great scandals, and endeavour to sweep away these crying evils.

The examination of a railway and mining share dealer in the Bankruptcy Court, this week, has caused some excitement, and no little indignation, among respectable brokers in the market; especially as from no complaint having ever been made against the party in question, no suspicion was entertained that he had been guilty of the conduct proved against him—that of having received money for shares which he had never delivered, nor even purchased. That such a practice exists on the Stock Exchange, or among respectable brokers, or dealers, in the mining market, as stated by his solicitor, is, we have reason to believe, a gross calumny. That a system of "bearing" and "bulling" stock, or shares, for the account or settling day, exists among dealers is well known; but, on account days, settlements are arranged, shares delivered, and differences paid or received, as the case may be. The duty of a broker, however, is to execute the orders sent to him on the day he receives them, to deliver the transfers within a reasonable time, and then receive payment; for it has never been a practice with respectable brokers on the mining market, except in special cases, to ask for payment beforehand, and we must say, that it appears to us more caution should have been exercised in remitting money in the cases referred to, previous to the delivery of the stock.

The great movement of the country is towards mining. In every part of the empire great activity prevails in this respect, and powerful combinations of moneyed men are forming for the development of many known districts of mineral wealth. We have long foreseen that the current was rapidly coming to the flow, and although monetary matters retarded, and do retard still, to a certain extent, the operations of this nature, it was clear that a material change would speedily be produced. It was impossible for any reflecting person to come to any other conclusion, who examined the statistical returns of the exports of ores and metallic manufactures. It was impossible for the trade to increase in such a marked manner without a corresponding increase being produced in the yield of the raw material, and hence great animation has been given to existing mines, and inducements held out for the formation of new undertakings. Last year, the value of the exports of articles identified with mining was 27,000,000*l.*, and this year it is calculated it will reach about 35,000,000*l.* This mere increase of 6,000,000*l.* or 8,000,000*l.* is of itself evidence that activity must prevail, and that more capital must be brought to bear on the mining interests of the country.

Of the beneficial result of capital applied to home mining, when judiciously laid out and managed, we have an example in the Devonshire Great Consolidated Copper Mining Company, a report from the directors of which appeared in our last Journal. It was the thirteenth annual meeting at which the statement was laid before the shareholders, who had the satisfaction of dividing, as dividends for the year, the sum of 64,512*l.*, or at the rate of 63*l.* per share; yet the shareholders' capital is represented by 1024*l.*, in the same number of shares of 1*l.* each. This is no mere accidental appropriation of profits to the extent named, but may be regarded as the customary benefit accruing to the proprietors; for, taking the amount paid since the commencement of the undertaking, we find that the average is upwards of 42*l.* per share per annum, which upon the sum originally invested is equal to 4200 per cent per annum. In addition to the amount mentioned as interest, a rent, or reserve fund of upwards of 30,000*l.* continued in the hands of the company, while the estimated value of ore at surface and underground is set down at 42,822*l.* Altogether the property and assets represent a total of 134,968*l.*; and as the capital and liabilities are given as 12,965*l.*, it necessarily follows that a balance of no less than 121,403*l.* stands to the credit of the undertaking, or equal to 118*l.* 10*s.* per share. From this general balance a further dividend of 12*l.* per share was declared by the directors at the meeting yesterday, and yet a cash balance of 29,685*l.* still continues at their disposal.

Supposing, therefore, that the immediate winding-up of the affairs of the association was determined upon, an original holder would have received 686*l.* 10*s.* on every 1*l.* invested, in addition to the return of the capital which is included in liabilities, and of this enormous benefit he has been the recipient in 13 years. Of winding-up, however, there can be little apprehension, as must be plain to all who read the report, and there is every probability of increasing profits for a long period to come. The renewal of the lease, with extended lands on the course of the lodes, justifies the expectation of even still more lucrative times for the fortunate holders of the shares; and the report of Capt. JAMES RICHARDS shows an amount of ore ground laid open and available which would be quite fabulous to persons unacquainted with the truths of mining enterprise in this country. Nearly 69,800 tons is the aggregate valuation, and so minutely is the estimate laid down, that there cannot be misapprehension in the matter. The total of ore ground in Wheal Anna Maria, a section of the property of which the Devonshire Great Consolidated Copper Mining Company consists, is given at 35,943 tons; Wheal Josiah, 21,306 tons; Wheal Emma, 6691 tons; Wheal Fanny, 4479 tons; Wheal Maria, 1112 tons; and Wheal Thomas, 200 tons. Such is a sample of an English mine as respects its position and prospects. With such undertakings at home, it is not sheer madness to embark capital in similar undertakings abroad. The day for such ruinous projects has, however, passed away we trust, and certain it is that those who do disregard the caution so constantly given meet now with no sympathy in their misfortunes. There is plenty of room in this country for active mining operations, and everything shows

that the feeling is generally opposed to all foreign schemes; while the profits resulting from home mining far exceed the benefits of any other description of British enterprise, and, consequently, present inducements for investment of no ordinary kind.

Nothing can be more certain than the effects of supply and demand; they are sure to find their level. Some weeks since we predicted increased business in the Birmingham metal manufactures, as the result of cheaper rates for copper and tin; the very high prices of these metals had seriously crippled the manufactures, it being next to impossible to raise the price of goods in proportion to the price of metal. We are now informed that great activity exists, and orders are more abundant; this is a good sign for miners, as the present rates for minerals are sufficiently high to be remunerative to all parties, and to inspire confidence on all sides. That the demand will be continuous need not be feared; the recent check to manufacture was solely brought about by the unduly high prices of metals. How they attained such rates must be best known to the dealers; however, they gave an impetus to mining that has done a vast amount of good, and will continue to do so. It is with sincere pleasure we continue to receive favourable accounts from most of our mining districts. Though copper and tin are not so high as they have been, the miner appears satisfied, and if the price suit the consumer all will be well.

Now, the Government appears to be in a settled state, the supplies of bullion increasing, and the prospects of an abundant season apparent; we think the mining interest has nothing whatever to fear, but all to hope. There, perhaps, never was a period when the prospects for the mining population were more favourable; the materials consumed in mines—hemp, tallow, timber, and the other heavy expensive articles of consumption—are (thanks to the Russian war being concluded) at a moderate price. Extensive orders are given by some of the leading mines for supplies of this sort, that had been withheld in consequence of excessive prices, thus illustrating the effect of supply and demand in the manner we commenced this article. As surely as any one object of general consumption gets unduly dear, the demand will fall off until the price reaches a legitimate level.

On a former occasion we made a few brief remarks on the probability of the exportation of grain from Australia to this country. We alluded more especially to the opening up of the fertile corn lands of the interior by the construction of railways throughout the different colonies. While Victoria has been sending forth her gold at the rate now of one million sterling per month, South Australia has been developing the richness of her surface soil by an equal comparative expansion of her agricultural produce. Victoria, however, has seen the necessity of due attention being given to this point as well as to the precious metals, and is now beginning to reap the benefit. Hitherto her chief supply has been imported from the sister colony of South Australia, Valparaiso, and Chili, and during the year 1856 the value of grain brought in was nearly two millions sterling. This amount will be much decreased during the present year from the fact that a much greater extent of land is under tillage, and it is expected that in about two years Victoria will be independent of such imports. This is without respect to railways; but if their expansion be rapid it is more than probable that the colony will export grain before the expiration of the period named. Preparations, in fact, are already made for the transmission of wheat to England from South Australia in anticipation of a cessation of demand from Victoria. This is a very important state of things, and as these hitherto distant colonies are now brought into such close proximity to the mother country by the great acceleration of steam conveyance, it is impossible to foresee the effect which may be produced in our general import trade in grain. By many it is supposed that Australia will ultimately render us perfectly independent of Russia in this respect, while the quality of the wheat in South Australia and Victoria is far superior in all respects to that from Odessa. The harvest is over throughout the colonies, and the crops have been secured in excellent condition. "The question, therefore, arises," says a correspondent, "what is to be done with the produce?" hence England is looked to for taking off the surplus, more especially as it is calculated there will be a clear profit of 10*s.* per quarter. It will, moreover, furnish freight direct home to the large tonnage which now leaves Port Phillip in ballast for the Indian ports, Calcutta, and other places, in search of cargoes to Europe. It is a well-known fact that the London fleet, which is so highly appreciated in the colonies, are often obliged to remain for long periods—indeed, it is only in the wool season that a return freight can be quickly obtained.

That capitalists are now directing their attention to our Australian colonies is evidenced clearly by the rapidly increasing export trade, as shown by the returns from the Board of Trade, together with the various projects now under organisation in this country for the construction of railways, docks, and other great works, particularly in Victoria. That this colony should be the first to be brought under the consideration of English enterprise is natural from the fact of the vast treasures of gold which she possesses, and of which railways will facilitate the transmission, as well as reduce materially the cost of such transmission. Again, docks are absolutely necessary for the due and punctual carrying out of the trans-oceanic trade and commerce of the colony. This cannot be better evidenced than by reference to the fact that the *Onesida*, the safety of which there was so much doubt, was compelled to go to Sydney to make good the necessary repairs, whereas, if there had been a proper place for her reception in Port Phillip Bay, the delay in the transmission of her mails would have been trifling and the apprehension as to the safety of her passengers wholly removed. It is indeed surprising that this great defect as respects the shipping interests of Victoria has not been long removed by the construction of wet and dry docks, more especially as many eligible sites present themselves, and as the bay is, at times, both tedious and dangerous in its navigation. It seems to us wise, therefore, to establish this desideratum either at the entrance of the bay, at Port Phillip Heads, and thence by a railway, direct, or skirting the interior coast, to Geelong, a distance of 16 or 18 miles, where it will join the Geelong and Melbourne Railway, and thus connect Melbourne direct with the entrance of Port Phillip Bay, or at Williamstown, or Sandridge in Hobson's Bay, as suggested by Mr. R. W. POLLARD, in his prize essay on the internal communication of the colony by railway in connection with docks. Such is, we believe, the outline of plan of the Queens-cliff and Geelong Railway and Port Phillip Dock Company, an enterprise about to be introduced in London, but we necessarily wait the perusal of a detailed prospectus before we can specify its more particular merits. We merely mention the project in alluding to the various undertakings which it is considered necessary to organise in this country for the advancement of the general prosperity of our important Australian colonies, and for the protection of our shipping interests, which form such an essential and powerful part of our relations with those places. Railways and docks are necessary links in the scheme for rendering our Australian colonies lucrative corn-producing districts for home supply; and, therefore, every encouragement should be given to undertakings of this nature which present feasibility on the face of the plan with prospect of beneficial advantage to those who embark their capital for such purposes. It would, apparently, be a great gain to this country to be independent of Russia in every description of supply, and with our numerous colonies and settlements in every part of the world there seems no reason why British labour and enterprise should not produce every article required.

Mr. SQUIR repeats his offer to show his process for the economical and effectual treatment of gold ores. An advertisement to this effect appears in our columns set apart for such insertions; and this gentleman alludes specially to the auriferous matrices of the Quartz Reduction, Anglo-Californian, Liberty, Waller, and Quartz Rock Companies, which he has tested fully on a limited scale, and desires to operate more extensively that he may commercially demonstrate the extraordinary value of his treatment. On a former occasion, we expressed a hope that his principle would be determined by some of the associations largely interested in the question, and as he volunteers his services, no damage can accrue by the scientific examination of the merits of the treatment, but, on the contrary, much benefit may be the result. So confident is Mr. SQUIR of the success of his invention, that he regards it as a matter of the utmost magnitude, inasmuch as it will render productive many localities in this country, where gold is supposed to exist to an insignificant degree only, and will furnish vast returns of profit to Californian and Australian gold companies, which are now mere sources of outlay and loss to the shareholders. He contends, in fact, that the quartz, both from Australia and California, which under the system usually adopted yields only about half an ounce of gold per ton, will give from 50 to 100 ozs. by his treatment. This is a bold assertion, and should be tested. Perhaps it will appear fabulous to many of our readers, but what we have witnessed ourselves has been so truly astonishing that we are bound to receive the assurance of Mr. SQUIR, on

this head, in all soberness and good faith. The companies named should take the initiative in the matter. Combined action on their part would entail but trifling expense on each, yet the operation on the aggregate quantity of quartz would be sufficient to set the question at rest, either affirmatively or otherwise. If the smaller trials be confirmed by an extensive operation of this nature, a principle will be laid down which will completely revolutionise the whole, and much-vexed, question of gold production, particularly in reference to Great Britain. If what has already been done by this gentleman be a faithful earnest of the commercial application of the treatment, there can be no doubt of the issue. Let it be at once tried. This is truly the age of wonders, therefore, it is quite possible that this will prove a wonder amongst the wonders; and we do trust that the offers of Mr. SQUIR will not be allowed to pass unheeded. Apart from the mercantile bearing of the invention, it is one of great scientific interest, and in that respect should be enquired into, if in no other. Is it not a matter the School of Economic Geology should take in hand?

The hope which we expressed in concluding our last notice of the West of Ireland Mining Company, that we might have shortly the pleasure of announcing that operations had been actually commenced, seems likely to be more speedily realised than even the most sanguine well-wisher of the company could have reasonably anticipated. Important accessions of gentlemen of standing and influence continue to be received from day to day, embracing the names not only of patriotic Irishmen, but of gentlemen interested by connection, and the possession of property, in the development of the resources of Ireland.

The general feeling exhibited towards the company has warranted the directors in dispatching Mr. J. H. CLEMENT, the superintendent of works, to the district, to make the necessary preliminary investigations into the actual state of the Sheffry Silver-Lead Mine, in which operations will, in the first instance, be commenced; and to report upon the machinery, &c., requisite to open the works forthwith. Mr. CLEMENT's varied, extensive, and lengthened experience admirably qualify him for the position he has been selected to occupy, and we expect to be enabled next week to lay before those interested in the important enterprise in which he is associated the result of this inspection of the mine mentioned, and the adjoining neighbourhood.

Mr. CLEMENT's attention will also be directed to the marble quarries, and to the slate quarries at Derry-Herbert and Lannire; and it will be interesting to have a confirmation from him, of the highly favourable opinions already given and published, not only of the works already partially opened, but of the general indications of the locality.

No more opportune season could have been possibly selected, even had it been matter of choice, for the commencement of works in this district. We find grievous complaints still proceeding from the West of Ireland of want of employment; and this at a season of the year when lengthening days and fine weather are peculiarly favourable for outdoor labour. The West of Ireland Mining Company may be destined to be of as much importance, socially throughout the country, as it may result in profit and advantage to the individuals who compose it.

#### THE MINING AND INDUSTRIAL INTERESTS OF CORNWALL.

[FROM OUR CORRESPONDENT IN WEST CORNWALL.]

MAY 21.—The standard last week was again well sustained, and each week's sale since the reduction in the price of fine copper has tended to the conclusion that the smelters will keep up the price to 126*l.* per ton. At the corresponding sale of last year ore copper sold at 95*l.* 14*s.* per ton; last week the price given was 104*l.* 12*s.* per ton. On June 25, last year, the price of cake copper dropped from 126*l.* to 107*l.* 10*s.* per ton. That no such a fall is contemplated now is pretty evident, from the smelters giving the miners so much more for ore copper than they did in May last year. The price now given for ore copper is but slightly different from the prices in the corresponding weeks of 1854 and 1855, and in these years the price of fine copper was maintained at 126*l.* per ton. We may, therefore, hope and expect that the same price will be adhered to during the ensuing summer. The advantageous position of the copper miner, as compared with his circumstances last year, may be judged of by the following comparison of ore sold:—

	Tons.	Standard.	Produce.	Price per ton.
May 8, 1856	4791	£135 4	7	56 14
May 14, 1857	4765	145 6	63	7 1

After making allowance for the difference in produce, it appears that the miners received last week 12*s.* per ton more than they did at the corresponding sale of last year; and that difference upon the ores sold last week (4765 tons) shows 2859*l.* to the advantage of the miners more than they would have received for the same ores, if sold twelve months ago. Scarcely anything more is needed to show that copper mining must be now in a healthy condition, having a good price for ores to ensure its prosperity—not so high a price as in the first month of the present year, when it rose to a figure beyond precedent, but still a remunerative price, satisfactory to the miners, and also, we believe, to the manufacturers, who would rather that there should be a reasonable price maintained without fluctuations than that there should be such sudden changes of prices as occurred last year, to the serious detriment of business. It is gratifying to see that in the manufacturing districts the trades into which copper enters as a raw material have improved since the reduction to 126*l.* per ton, especially the brass foundry trade. Should then, that rate, and the present standard for copper ores, be maintained, it is evident that 1857 will be a more prosperous and remunerative year for copper mining than was 1856. Whether it will be a more active year in the way of share dealing is another question, the event of which will in a considerable degree depend upon the money market; but already there are circumstances inducing the opinion that a favourable change in our monetary relations is at hand, and whenever that change is realised mining, as well as other branches of industry, will receive a beneficial impulse.

The drop last week in the price of tin has reduced black tin to 139*l.* per ton, which is still 6*l.* above last year's quotations, black tin in May, 1856, having been 133*l.* per ton; so that, notwithstanding two reductions since the commencement of the present year, tin mining is yet more remunerative than it was in 1856. There are apprehensions with some parties that there will be a further decline about Midsummer, and it is said that the very large production of Great Wheal Vor must have a permanent effect upon prices. Great Wheal Vor sold last quarter 205 tons for 17,022*l.*, and the produce of Dolcoath has greatly increased, it being expected that with the aid of the new machinery 50 tons a month will be returned. But notwithstanding this, and the increasing produce of some of the mines in the St. Ives district, there is fair reason to believe, looking at the augmentation of the exports of our tin manufactures, that a sufficient demand will be maintained for all we can produce, and that the price of tin, though it may fluctuate somewhat, will not, on the whole, drop below the rates of last year; and if last year's prices are maintained, the tin mines of Cornwall will do well.

Pig-lead sold from 24*l.* 5*s.* to 24*l.* 15*s.* per ton. In May, last year, English pig-lead was from 26*l.* 10*s.* to 27*l.* per ton. The price is below that of this time twelve months, but sellers are firm, and probably there will be an advance.

Alfred Consols shares have dropped to 20*l.*, for which there does not appear to be any particular reason in the declension of the mine. At Wheal Buller meeting, on Tuesday, the dividend was 7*l.* 10*s.* per share, the previous dividend having been 5*l.*, whilst the balance was increased from 1418*l.* to 1501*l.*, although 200*l.* income-tax was charged. The mine is not looking quite so well in the eastern part, but the 60 may be fairly expected to improve on being driven further east, and the next dividend will, no doubt, be a large one. At Great South Tolgus, the lode is reported to be worth from 250*l.* to 300*l.* per fm., having improved since last week, when the produce was 12 tons per fm. This appears to be at present the richest copper lode in the county; its continuance remains to be proved; but the mine appears to have the elements of a great and productive one, and the shareholders may esteem themselves fortunate. The shares have advanced to 19*l.* and upwards. There have also been enquiries in South Tolgus shares at 140*l.* to 145*l.*. At North Frances, there is a capital lode in Eales's shaft, and the quality of the ore was shown by last week's ticketing, when 24 tons sold at 10*l.* 10*s.* 6*d.* per ton, and 5 tons at 44*l.* 16*s.* per ton. At Muckean's shaft also an improvement is expected. At Penstruthal meeting, on Friday last, there was a call of 6*s.* 3*d.* per share. This mine is worthy of a vigorous prosecution; it is thought by some that a mass of ore will be met with at greater depth. At St. Ives Consols meeting, the dividend was 7*l.* per share. South Frances shares continue flat at from 295*l.* to 300*l.*; West Seton, 315*l.* to 320*l.*. West Basset looks well in the bottom of the mine, and there are strong indica-

tions of improvement. At Great Wheel Busy, the surface presents the appearance of an extensive mine; and it is said that some fine courses of tin and copper ores will soon be available, from which the returns will be increased. The engine is working at considerable speed. The Chace-water district is likely to become a very active mining district again; and the Tywartha Mine, whenever it resumes working, will draw renewed attention to the St. Agnes district. At Belling Well there are good indications, and it is thought by many that there will yet be a profitable mine there. East Bassett shares have slightly improved. West Stray Park, 6½. Cargoll, 15½ and 16½. South Garra, 24½. West Rosewarne deserves a vigorous trial, and it is likely to be judiciously worked under the present management.

The Mining School at Truro does not appear to be making much progress in the way of attracting pupils. The master of the mining department has lately accompanied the students to West Seton, the United, and other mines; and there seems to be some advantage in this, as compared with mining schools in other parts of the kingdom. But the feeling amongst mine agents is, as heretofore, that the school ought to have been established in the midst of a mining locality, within a few minutes' walk of mines, where enquiring students would have the practical operations constantly before their eyes, and might frequently go underground to observe for themselves, and learn from experienced miners and agents. It was said there was not money enough subscribed to meet the expenses of the institution, and to provide a laboratory away from Truro (where there was one before existing); and thus, in fixing the school at Truro, the convenience and efficiency of the mining department were surrendered to the necessities of the chemical department. From what I hear, there does not seem much probability that the school will be supported at Truro beyond the three years for which subscriptions have been made. But could not an effort be put forward for establishing a school at Redruth or Camborne, in the midst of the mines, and there furnishing it with a laboratory? As long as the school is carried on at Truro I do not believe it will succeed. Will not the Members for West Cornwall (Mr. Michael Williams and Mr. Richard Davey) turn their attention to this subject, and take upon themselves the initiative for the establishment of a really useful mining institution for the county?

In connection with such an institution there might be formed a museum, containing models of improved machinery, and specimens of improved materials for mining purposes. For example, a model of Zenner's rotating binnacle is now placed in the Museum of the Royal Institution, at Truro, and its action is explained to the students of the Mining School. This is said to be a really useful machine, and mine agents would do well to turn their attention to it.

It was noticed in the Journal that at the last meeting of South Frances adventurers, objection was made to the chief agent occupying so much of his time in inspecting various mines in different parts of the county, for adventurers or intending purchasers in those mines. It is well known that the practice of mine inspection is increasing, and it is a very good sign of the times, as showing that persons are more cautious than they were formerly, and consequently are not so likely to be deceived by fallacious reports. But no managing agent can reasonably expect that the adventurers who employ him will allow him to be very frequently absent from his duties in the superintendence of their own mine. This absenteeism, however, has been an increasing evil for some time past, on the part of chief agents of some of the best mines in the county; and South Frances shareholders are not the only ones who have felt that they had reason to complain of the usage. But to South Frances adventurers belongs the merit of first speaking out on the subject, and their doing so will perhaps operate as a check on their own and other agents. And there is another evil adventurers complain of, which is, that agents undertake the superintendence of too many mines. This is a matter which should be looked into, and if it is thought that the direction of the workings of several smaller mines call an agent away too often from the affairs of the mine which principally employs him, such a course must be checked and stopped. It is a healthy symptom that adventurers in the present day are beginning to look more and more particularly into their own affairs, and are disposed to see that agents and pursers properly attend to the duties of their respective offices.

But although it is a great evil when agents are very much absent from the mine which mainly employs them, it can scarcely be expected, and should not be exacted, that they should altogether cease from inspecting other mines. By so doing, they realise an important addition to their incomes, and not only so, but confer, in many instances, a benefit upon those who are seeking to invest in mines, and who want information and advice. Until a class of mine inspectors shall arise, experienced, honest, and reliable men, who will make it their business and profession to inspect mines, without being connected with any particular one, the present system would seem to be a necessity, and is only open to reprehension in its abuse, which is, when the chief agents of our large mines give too much time to the inspection of other mines, and are thus prevented from giving that close and unremitting attention which they ought to give to the affairs and working of their own mine.

#### REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

MAY 21.—We have nothing new to notice this week with regard to the iron trade, which continues to maintain a degree of firmness and activity that is likely to extend throughout the present year. The demand for home consumption is steady, but the orders for export are large and increasing, a fact fully borne out by the rapid increase in our shipments.

The coal trade maintains an average steadiness considering the season, and were the export trade better cultivated, we should have a less accumulation of stock and better prices would be realised.

The success of lead mining in Derbyshire is becoming daily more apparent. The Eyam mine is looking well, and this week the shares have been sold at 57½, 58, 2s. 6d. paid. Chapel Dale shares remain stationary as regards price, and they have been dealt in at ½ premium.

We have endeavoured at some trouble to present weekly a report of the operations of the North Derbyshire Company, which has been established under the most favourable circumstances, and whose chances of success are regarded with a degree of certainty, greater than is usually done in mining affairs. We ascertained that a large speculator who held upwards of 500 shares, had suddenly thrown the whole of them upon the market, and having disposed of them he left the country regretted by none, except those whose claims he had forgotten to liquidate. This had the effect of glutting the market and depreciated for a time the value of the shares, but we advised the shareholders not to be alarmed at what was taking place in the market but to hold their interest until the works at the mine had been put in order. The shares are now eagerly enquired after, but there are no sellers, except at a premium; indeed, we should not be surprised if the stock of this company is not quoted at double its present price in a very short time. The mine has now been completely unwatered by one set of pumps, and the two other lifts have been put in order, so that if the company should be visited with a perfect flood the three lifts of pumps would be amply sufficient to raise it. The miners will soon commence mining operations for the first time since the formation of the company, and from what we can learn there is not the shadow of a doubt but that great results will be realised, the company's sett being in a rich mineral field, and the great Eyam vein running in a direct line with the company's mine. A concern which had been left unworked by the ancient miner is believed to contain a vast quantity of lead.

The Red Rake and Sallad Holes Mines had each a sale of ore on Thursday. There never was a period in the previous history of lead mining in Derbyshire when the same spirit and enterprise was manifested for the development of its mineral riches.

#### THE IRON AND COAL TRADES OF STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN WOLVERHAMPTON.]

MAY 22.—The accounts given of the state of the Iron trade concur in representing it as remarkably firm and healthy, and affording good prospects of a continuance and increase of the activity which at present prevails. The make of pig iron is very large. Parties who had furnaces blown out some time ago keep them now in full blast, and people are inclined to extend the means of production, but the state of the money market necessarily puts a check upon new enterprises. The stock of pig iron in the district is greatly reduced and prices are very firm. The reports from North Staffordshire are equally satisfactory respecting the state of the iron trade there.

Coal, at present, maintains its price, but a fall in domestic kinds appears likely, as a result of the present warm weather. Some time ago a so-

ciety was formed in Birmingham for the purpose of the members supplying themselves with coal and coke for their own use direct from the mines at lower rates than they could obtain from dealers. The society has progressed greatly, the sales of coal to members, for 1856, amounting to 6111½. A similar society has been formed in this town, and, so far, promises well. One great difficulty in connection with the coal trade is the practice of giving large weight at the pits, which introduces a great degree of uncertainty and opens the door for much mystification and fraud. The plan of selling 20 or 28 cwt. for a ton is absurd. It would in this, as well as in all trades, be far better for words to have a specific, constant, and generally understood signification. The same remark applies to the sale of corn, in which all kinds of measures prevail, and to many other articles of ordinary use.

An effort was made here some time ago by the farmers to adopt measures and weights for the sale of corn corresponding to the imperial measure, but it proved a failure, the millers being disinclined to any alteration. The subject will probably be brought before Parliament.

The general trades of the district are steady, perhaps some greater degree of activity may prevail, but there is nothing like a flush of orders. Makers are fairly employed, but a much larger business could be done if the demand for goods was more extensive. Still a steady current of trade prevails, and very few workmen are unemployed. There are many reasons for anticipating a good autumn trade.

On Tuesday, another man died at the hospital from injuries received from the explosion of the blast furnace at Messrs. Riley's, near Bilston. This is the sixth death from this sad occurrence. A subscription is being entered into for the families of the sufferers.

A pamphlet has recently been published, entitled *The Iron Question Vindicated*, which is a defence of the work of Mr. Joseph Hall, of Tipton—noticed some time ago in this letter—from the hostile criticisms of supposed interested parties. It is written with considerable ability, and the author trips up his opponents in a very clever manner. As the writer of this part of your Journal was led to form a very favourable estimate of Mr. Hall's claims, from careful enquiry on the subject, it is needless to say more than that the author of the pamphlet fully disposes of the objections made to the claims of that gentleman as an inventor. It may be doubted whether after Mr. Richard Cort's abandonment of the position he had taken up such a vindication were needed. The pamphlet only makes more palpable the want of a masterly and comprehensive history of the improvements in the manufacture of iron.

#### STOCK, MINING, AND RAILWAY SHARES IN IRELAND.

[FROM OUR CORRESPONDENT IN DUBLIN.]

MAY 21.—There has been a reaction this week on the late advance in the stock market, and prices have fallen about 10s. per cent.; prices of shares, however, were well maintained, and the ease which seemed likely to take place in the money market gave a stimulus to business, which was more active, both in the stock and railway share markets, while mining shares were dull. The following are the latest quotations:—Consols, 92½; New 3 per Cent., 92½; National Bank, 34½; Royal Bank, 22½; National Insurance, 27½; Patriotic Insurance, 7½; Consumers' Gas, 7½; Mining Company of Ireland, 15½; Cork and Passage Railway, 12; Belfast Junction, 41½; Dundalk and Enniskillen, 13½; Great Southern and Western, 104; Irish South-Eastern, 7½; Midland Great Western, 51; Waterford and Limerick, 23.

The Great Southern and Western Railway Company are now about issuing the proprietary, *pro rata*, at par, 100,000, new stock, which they find it necessary to create to pay for some extensions. Notwithstanding this, the marketable stock has been gradually rising, while at the same time the last week's traffic shows a decline of about 7000, and on the 20 weeks of this half-year a total decline of 74760. The illuminating gas from peat is now going ahead, several new orders having been received by the inventor, Mr. Johnson, at the Monasterevan Distillery, where it has now been at work for some months. The invention is becoming daily more appreciated, and the saving has been found to be very considerable, the cost of lighting the establishment now being only about one-fourth what it was before.

Some time since, I drew your attention to slate quarries in the south-west of Ireland, from which specimens slates and flags were forwarded to Mr. G. E. Magnus, of the celebrated Pimlico Slate-works, and who reported very favourably upon their character, and who considered those forwarded him, though only taken from the top of the quarry, to be almost equal as roofing slates to the Bangor slates. It will be satisfactory to know that the quarries to which I allude are progressing most favourably, there being at present a cargo of most excellent quality ready for shipment. There is no reason why Ireland should be dependent for her supply of slates upon Welsh quarries, while she abundantly possesses within the limits of her own shores slates which are equal to any that can be produced elsewhere; but enterprise, skill in working, &c., which I trust will no longer be found wanting, have hitherto been deficient, and the consequence has been that we must import from other countries what we could produce profitably at home.

There being large holders in South Devon Consols Mine shares here, several enquiries are made to know when the annual meeting will be held.

#### MEMS. OF MINES AND MINERS—No. IV.

Although the name of Sir CHARLES LEMON can hardly be added to the list of miners, literally speaking, yet his scientific contributions on geology, and other kindred subjects, but, above all, his liberality towards everything tending to further these interests, fully entitle him to take a proud position in such associations. The princely revenue enjoyed by the hon. Baronet was originally derived from mining, his ancestors having been extensively engaged in that profession, it is said, as working miners at the Old Great Wheel Fortune. Sir Charles, it will be remembered, some few years since, munificently offered to endow a mining school on such a scale as to be effective, the magnificent sum being sufficient to place it in a first-rate position. His urbanity, his kindness in patronising all public meetings for forwarding mining, or anything relating to it, and, above all, his literary and mechanical talents, no less than his well-known good taste in the fine arts, fully entitle him to the appellation by which he is known in the county he so worthily represented in Parliament—viz., the Miner's Friend. Long may he live to enjoy the title!

Mr. JOSEPH CARNE (Penzance) is one of the geniuses who, by strict study, perseverance, and extensive enquiry, acquire a knowledge of the subject of mining and mineralogy, unattainable by an uneducated person, be his practice ever so extensive. Some of the ablest papers ever produced in the *Transactions* of the Royal Geological Society are from his pen, and evince an amount of knowledge truly wonderful for one who, though never six feet underground, was as practically a miner as could be found anywhere. He may justly be said to be the Mæcenas of these men, for he certainly not only patronised them by his purse, but by his countenance also. His cabinet of specimens is almost without rival. In the western part of Cornwall, if any rare mineral were discovered, it was sure to be preserved for Mr. "Joe" Carne, whose enquiries were sure to elucidate every particular connected with them, much to the delight of the men. His liberality has furnished many most valuable specimens of rocks, minerals, and veins to our public museums, whilst his works have rendered his name immortal as a scientific miner.

WM. JORRY HENWOOD stands at the very head of his profession as a practical and scientific miner, having had experience in nearly all parts of the world where minerals are to be found. From his earliest years, even at school, he gave abundant and striking proof of great ability. His education was of a liberal description, including the classics. His first striking experiment was on a gas discovered to be exuding in a Cornish mine, which he at once named as being azote. Having been engaged at the works of the Cornish Colour Company, at that time working near Penryn, he laid the foundation of chemical affinities, so useful to him in future life. He early commenced a series of communications to the Royal Cornwall Geological Society, remarkable for their lucidity and plain statement of facts. His efforts were untiring, his good education gave him facilities for figures and expression of language at once instructive and interesting. No labour did he deem too great to undergo in pursuit of his favourite science. When Mr. Fox, and other Cornish savants, were desirous of ascertaining certain phenomena connected with mineral veins, Mr. W. J. Henwood was the individual selected to conduct the experiments; under which circumstances he naturally gained an experience and practical knowledge unknown to the greatest professors, as far as the Cornish mines are concerned, of which his numerous contributions to the pages of the *Transactions* of the Royal Society, and other scientific works, are abundant proofs. After completing these investigations he accepted the office of secretary and curator of the Royal Geological Society of Cornwall, in which capacity he extended and classified the wonderful collection of rocks to be found there in a manner that was, with his other accomplishments, appreciated. He obtained the friendship of the leading savants of the day, particularly of Sedgwick, Fox, Lemon, Carne, Gilbert, and a host of other worthies. His works were held up as text-books and authorities beyond dispute.

His industry and perseverance at last were, as a natural consequence, duly rewarded. A vacancy occurring in the office of the Duchy of Cornwall, this gentleman, as a just tribute to his endeavours, was offered the situation of deputy assay master. This had always been deemed a mere sinecure, but not so to him. In conjunction with the late Mr. James

Beckerleg, of Penzance, he set about clearing the Augean stable of this then sealed book. This was accomplished in the most satisfactory manner; and when the office was abolished at the alteration in the Stannary, he received a pension, which we believe he still enjoys. As soon as his services were at liberty, we find him sent to Brazil, to examine that country for the Government; then one of the American States availed themselves of his experience, and some important facts were elucidated. Jamaica, the East Indies, and other countries, have witnessed his explorations. After what we have detailed, it may be safely said he stands at the head of the profession as a learned and experienced miner, of most profound acquaintance with every subject connected therewith; and in the decline of life he lives in the heart of the district, honoured by the society and friendship of the great and the good men of his youth, and with a competency as ample as it is deserved. GEO. HENWOOD.

P.S.—It must be understood the writer of these brief mems. does not belong to the family of W. J. H., except in a very remote degree, but he sketches such as deserve to be known for their industry and ability.

#### BRISTOL MINING SCHOOL.

The lecture on Monday was given by Mr. G. C. Greenwell, it being his second lecture on "Ventilation." In commencing, Mr. Greenwell referred to his description of the principal gases met with in mining, as given in his former lecture. Hydrogen, in combination with carbon and atmospheric air, formed the most explosive compound, and carbonic acid acted as a mineral poison. On this occasion he would direct attention to some important particulars respecting the air-ways and the properties of air, as practically exhibited and utilised in the ventilation of mines. He had before shown, by a model, the efficiency of furnace ventilation, and that the effect of opening a door in a way communicating directly with the downcast and upcast shafts was not so considerable in injuring the ventilation, where the air-ways and upcast were spacious, as was generally supposed. The friction of the current of air in mines was inversely as the square of the area of the air-ways, and directly as the length of the air-way, so that if the area were increased from 20 to 25, the friction would be reduced by three-fourths; and by reducing the length one-half, the friction would be lessened by one-half. This was of great value in practice, as it showed the advantages to be derived from judiciously splitting the air; in doing which it was often necessary to carry currents of air across each other, by means of arches, and to regulate the supply of air to the respective districts, by contracting the area of the shortest air-way.

This contraction might be effected by sliding doors, which were to be constructed so as to lock for different spaces of contraction, to prevent anyone tampering with the supply of air. When the aperture of the regulator was filled with air, in effect it became a stopping. By splitting the air current, you at once increase the area of the air-way, and diminished its length, removing in part the two principal causes of friction, and producing a corresponding increase in the general ventilation. The furnace was, perhaps, the best and most practicable means made use of to assist ventilation. Any contraction of the furnace arch, caused by the fire-wall at the inner end of the bars, might be obviated by giving a little rise in inclination to the arch, and the danger of explosion at the furnace removed by the use of a dumb drill.

Air was made to expand 1-480th part of its volume at a temperature of 32°, for every additional degree of heat. Fahrenheit; so that the difference in the length of the downcast and upcast columns of air of equal weight would be the distance through which the downcast column of air had to fall in vacuo. Supposing the distance to be 16 ft., then by the law respecting falling bodies, the rate of air per second might be easily calculated, making the necessary allowance for the resistance due to friction. Various mechanical contrivances had been applied to assist ventilation, but it was questionable whether any of them had in any degree superseded the furnace. The mode of high-pressure steam, as suggested by Mr. Gurney, had been thoroughly tested at the Boston Central Colliery, where it was proved that the increase of air-way was due not so much to the jets of steam as to the heat of the boilers. The inventor had lost sight of the disparity between the length of tubes in a locomotive and the length of an upcast shaft.

Mr. Buddie's machine was next noticed, the defect in which was in the leakage of the piston. An improvement in this respect was effected by a Cornishman, who constructed a piston to work in water, but was defective in exhausting the air by only one stroke of the piston. By a combination of these two inventions Mr. Struvé had obviated both defects, but an objection, common to all machines, was their liability to get out of order and to suspend the ventilation, and the cost of many of them both in the purchase and to keep them at work.

#### NEW LIMITED LIABILITY MINING COMPANIES.

**NORTH STAFFORDSHIRE COAL AND IRON COMPANY.**—To purchase lands in Stafford or Chester, to obtain coal, ironstone, and other minerals, and for making railways for their conveyance, and to convey the same to the North Staffordshire Railway. Capital, 20,000, in 200 shares of 100 each. Shares taken, 134. Mr. T. H. Birley, of Prestwich, takes 10 shares; Mr. G. Bidwell, of Exeter, 1; Mr. G. C. Churchill, 5; Mr. Freeland, Manchester, 23; Mr. France, of Dock-street, Leeds, 23; Mr. Glover, Chancery-lane, Manchester, 25; Mr. Longdon, King-street, Manchester, 10; Mr. Smith, Baring-crescent, Exeter, 10; Mr. J. Taylor, of the Leeds Ironworks, Leeds, 10; Mr. Westcomb, accountant, Exeter, 10; Mr. G. Taylor, Parkfield-terrace, Hunslet, Leeds, 5. Offices, Colliery Offices, Talk of the Hill, Staffordshire.

**WHARFEDALE MINING COMPANY.**—To open mines and mining operations in England. Capital, 4,000, in 8000 shares of 10s. each. Mr. J. N. Horne, of Leeds, merchant, takes 250 shares; Mr. J. W. Reed, of Leeds, 1600; Mr. W. Craig, of Kettlewell, engineer, 1650; Mr. J. Holt, of Leeds, wool-merchant, 500; Mr. H. Carr, of Pudsey, manufacturer, 200; Mr. J. Mosser, of Leeds, engraver, 275; Mr. G. Craig, of Aysgarth, 100. Total shares taken, 7175. Solicitor, Mr. T. Simpson, Leeds.

**CORNWALL GREAT CONSOLIDATED LEAD AND COPPER MINING COMPANY.**—To purchase the rights of the leases in the South Maria, the Tamar, the Tamar Maria, and the Sutehley Consols Mines, and other mines in Cornwall, and to smelt ores and minerals. Capital, 24,000, in 12,000 shares, of 2s. each. Mr. T. Bartlett, of Hollyhill House, Kent, takes 7000 shares; Mr. Bathurst, of 10, Baker-street, Portman-square, 250; and Mr. Bennett, of South Fetherin, Cornwall, 50. Shares taken, 7430. Mr. Eury, solicitor, 34, Lombard-street.

**FOREST OF DEAN AND SOUTH WALES IRON, COAL, AND COKE COMPANY.**—To lease or purchase mineral tracts in the Forest of Dean and South Wales, and to raise the mineral products. Capital, 250,000, in 25,000 shares of 10l. Mr. S. H. Black, ironmaster, of Dudley, takes 500 shares; Mr. T. D. Clare, mineral merchant, of Birmingham, 500; Mr. H. Hart, of Newnham, Gloucestershire, 500; Mr. R. Page, Dover, 250. Shares taken, 1770. Mr. Wilkinson, solicitor, 3, Nicholas-lane, Lombard-street.

**DUN MOUNTAIN COPPER MINING COMPANY.**—To work these mines in the province of Nelson, New Zealand. Capital, 75,000, in 75,000 shares of 1l., with power by the authority of any general meeting to increase the capital. Twenty persons subscribe for 1000 shares each—Mr. Bateman, of 35, Sunning-street, Brompton; Mr. W. Brand, 109, Fenchurch-street; Mr. S. Curtis, 20, Finsbury-street; Mr. J. McCulloch, 14, Bride-lane; Mr. H. P. Hughes, 10, Basinghall-street; Mr. C. Leary, 23, Gresham-street; Mr. W. Lund, 57, Cornhill; Mr. A. Trimison, 10, Austin-friars; Mr. A. Mountjohn, Great Winchester-street; Mr. J. Inward, Wolverhampton; Mr. J. K. Morrison, Theobalds, Herts; Mr. W. Piper, Palace-road, Stangate; Mr. R. Porter, 12, Billiter-street; Mr. R. Porter, Bell-lane, Spitalfields; Mr. C. Robson, 1, Crown-court, Threadneedle-street; Mr. F. Saunders, 6, Great Winchester-street; Mr. J. Stayer, Fenchurch-street; Mr. A. Sward, Groomcock; Mr. W. Ingletrie, 36, Old Broad-street; Mr. A. Morrison, 3, White Lion-court, Cornhill. Offices, 6, Great Winchester-street.

**GREAT BARRIER LAND, HARBOUR, AND MINING COMPANY.**—To purchase the Great Barrier estate of 24,289 acres, part of the Great Barrier (otherwise Otago) Island, situate at the mouth of the Gulf, at the head of which is the town of Auckland, in New Zealand, and for rendering them productive. Capital, 50,000, in 10,000 shares of 5l. Mr. J. Bazaigette, of Dorset-square, Regent's-park, takes 100 shares; Mr. C. Barber, of Chamberlain's Wharf and Lloyd's, 100; Mr. S. W. Danes, of Park-crescent, Regent's-park, 100; Messrs. Harvey, of 12, Haymarket, 100; Mr. C. Martin, of 25, Bucklersbury, 100; Mr. T. Moxon, of 29, Throgmorton-street, 100; Mr. T. T. Tillingham, of Petworth, 100; Mr. P. Wright, 3, Great Winchester-street, 100. Offices, 117, Bishopsgate-street. Mr. J. Bazaigette, director.

**SPESSART AND VOGELSBERG MINING COMPANY.**—For the purchase and exploitation of mines of copper, silver, and cobalt, in the parish of Huelkeheim, Kahl, and Oberwesterwald, Bavaria; and in the district of Harler, in the electorate of Hesse; and in Haingrunden, Hesse. Capital, 12,500, in 1250 shares of 10s. each. Mr. C. O. Senders, of Thirsk, Yorkshire, takes 100 shares; Mr. T. Cobley, of the Bridge-house Hotel, Borough, 100; Mr. J. Barnett, of 134, Minories, 100; Mr. E. Barnett, 100; Mr. J. Taylor, 8, New-place, Old Kent-road, 1. Shares taken, 404. Mr. C. Wright, 27, Essex-street, Strand, conveyancer.

**BUTE MERTHYR STREAM COAL ASSOCIATION.**—To work mines in the Merthyr district. Capital, 50,000, in 2500 shares of 20l. Mr. W. B. Costello, of Paris, takes 750 shares; Mr. J. D. Barry, 43, Thurlow-square, Brompton, 750; Mr. W. Emon, 1, Oliver terrace, Mile End, 200; Mr. W. H. Lucas, Lyndhurst, Southampton, 50; Mr. A. Mackintosh, of Landow, Villa, New Brompton, 50; Mr. W. Q. Wright, Pinner, 25; Mr. T. R. Costello, St. Mary's-terrace, Paddington, 20. Offices, 6, Size-lane, City, Mr. J. Young.

**CARDIGAN SOUTH BOG COMPANY.**—To work mines in the parish of Caron, Cardiganshire. Capital, 6000, in 6000 shares of 1l. Mr. J. Francis, of Moseley, near Birmingham, takes 100 shares; Mr. R. Aston, of Balsall Heath, near Birmingham, 100; Mr. H. A. Heath, 10; Mr. J. Allen, King's Heath, near Birmingham, 20; Mr. W. Holmes, Soho Park, Handsworth, 100; Mr. J. Heaven, 81, Paul's-terrace, near Birmingham, 50; Mr. W. Banwell, Birmingham, 30; Mr. T. Lewis, Birmingham, 50; Mr. H. Smith, Camden-street, Birmingham, 30. Offices, 104, New-street, Birmingham, Mr. H. Hammer, director.

**HOPTON WOOD STONE COMPANY.**—To carry on the business of stone and marble merchants. Capital, 18,000, in 360 shares of 50s. each. Shares taken, 84. Offices, Wirksworth, Derby, Mr. C. Hubbert, secretary.

**QUEEN OF DART MINE.**—A notice has been issued by the committee of this company calling a meeting, at which to forfeit all such shares as the calls may not be paid on; this, together with the limiting works, as it is rumoured, implies that there are considerable arrears that have not been paid on the usual notices. This is much to be regretted; this promising speculation ought by all means to be prosecuted with vigour. It is to be feared the shares in the mine are held in large numbers by those who want the confidence or ability to pay their quota; both are equally fatal to the mine as well as to the interests of the other proprietors. These causes lead to the stoppage of mines more frequently than any others, to the ruin of all concerned; the mine then falls into other hands, who reap the success the others deserved. We trust to report in our next that the meeting may be unanimous in setting the mine to work with the vigour it deserves. The previous returns of the Queen of Dart is a guarantee of the quality of the mine. The discoveries in the neighbourhood of the most extraordinary description. All that is wanted, we hear on good authority, is a little more capital and perseverance.

to Prof. Holloway, Sir—Samuel Wells, Mather, had a very bad leg for three years; he obtained the advice of several medical men, and tried various medicines, but instead of deriving benefit therefrom his leg continued to get worse, & prevented him from following his employment; he was then induced to try Holloway's Ointment and Pills, which have been the means of effecting a cure.—Sold by all medicine vendors throughout the world; at Prof. Holloway's establishment, 244, Strand, London, and 50, Maiden-lane, New York; by A. S. Constantinoğlu; A. Gaskiel, Smyrna; and E. Muir, Malta.

# CALEDONIAN RAILWAY.—CONTRACTS FOR STORES FOR THE YEAR ENDING 30th JUNE, 1888.

The Directors are prepared to receive TENDERS for the SUPPLY of the under-mentioned STORES, &c.:-

No. of Contract.	No. of Contract.
Class 1. Bags, baskets, ropes, canvas, &c.	22. Lamps, &c.
2. Brooms, birch and beech.	23. Leather.
3. Brushes.	24. Locks.
4. Candles and soap.	25. Nails, spikes, and tacks.
5. Carriage furnishings.	26. Screws.
6. Coal trimmings.	27. Speltire, tin, and lead.
7. Coal, best Scotch, hard and soft.	28. Sponges.
8. Coal, soft.	29. Spring balances.
9. Colours, &c.	30. Timber.
10. Copper brads, rivets, &c.	31. Tin work.
11. Crucibles.	32. Varnishes.
12. Drysalteries.	33. Signal wire.
13. Glass, plate.	34. Sand.
14. Glass, various.	35. Bricks, clay, and lime.
15. Hardware.	

Specifications and forms of tender for each contract are printed separately, and may be had, on and after 25th current, on application (in writing) to Mr. W. LESTER, Caledonian Railway, St. Rollox, Glasgow.

Parties applying should state the particular contract or contracts for which they purpose to tender.

Patterns may be inspected on and after Monday, the 25th current, from Ten till Four o'clock, at the Company's Stores, St. Rollox, Glasgow, and further information may be had on application to Mr. LESTER.

Tenders, endorsed "Tender for Stores," to be lodged with the Secretary, No. 35, Renfield-street, Glasgow, on or before the 9th June, 1887. The directors do not bind themselves to accept the lowest or any tender.

By order, C. JOHNSTONE, General Manager.

Caledonian Railway Company's Office, Glasgow, May 15, 1887.

# TO ENGINEERS, BOILER MAKERS, AND OTHERS.—CONTRACT E.—The Directors of the Bristol and Forest of Dean Coal Company (Limited) are prepared to receive TENDERS for the SUPPLY of a WINDING ENGINE, GEAR, AND BOILER.

Tenders to be upon the company's forms, and to be sent to the directors on or before Wednesday, the 3rd day of June. Parties desirous of tendering for the above works may receive full particulars from the company's surveyor, Mr. H. MASTERS, Guildhall Chambers, Bristol.

B. D. COLLENS, Managing Director.

Dated 5, Bridge Parade, May 15, 1887.

# THE GREAT WELSH UNION SLATE COMPANY (LIMITED).

Incorporated under the Joint-Stock Companies Act, 1856.

By which the liability of shareholders is limited to the amount of their shares.

Capital £250,000, in 50,000 shares of £5 each.

The first call of £2 10s. per share is payable on allotment.

The Hon. W. H. YELVERTON, J.P., Whitland Abbey, Carmarthenshire (Chairman of the Provincial Welsh Insurance Co., Moorgate-street, London)—CHAIRMAN.

CHAS. DIXON, Esq., Park-terrace, Maida-hill West.

GREGOR GRANT, Esq., 4, Great Russell-street (late Chairman of the Oriental Bank, Bombay).

THOS. HUTCHINGS, Esq., 5, Adam-street, Adelphi; and Llandilo, South Wales; Contractor for Public Works.

JOHN EDWARD PANTER, Esq., Fulham (Director of the St. George Insurance Company, Pall Mall).

WILLIAM SHAW, Esq., 1, Kensington-park-terrace.

JAMES WALTON, Esq., Clement's-lane, London; Dudley, Staffordshire.

HENRY WARD, Esq., H.E.L.C.S., K1, Albany, Piccadilly.

OFFICES OF THE COMPANY.—WALBROOK HOUSE, CITY.

It is not anticipated that it will be necessary to make any further call within two years from the formation of the company.

Interest at 6 per cent. may be paid to shareholders upon advances made by them in respect of their shares beyond the amount of calls actually made.

Retained for the next two years £98,505

Current expenses 66,910

Leaving a profit of £31,595

Being 50 per cent. upon the current expenses, or 25 per cent. upon the paid-up capital of £125,000, which will annually increase for many years.

Prospectuses and forms of application for the remaining shares in the above company may be obtained at the company's offices, or by letter, addressed to the Secretary.

FRAS. CURTIS, Sec. P. T.

10A, King's Arms-yard, Moorgate-street, London, May 21, 1887.

# IMPERIAL BRAZILIAN MINING ASSOCIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of the shareholders in this company will be HELD on Monday, the 8th day of June next, at One o'clock in the afternoon, at the London Tavern, Bishopsgate-street, in the City of London, for the following purposes:—namely, To receive a report from the directors, showing the present position and prospects of the undertaking; and to authorise the directors to raise the further capital required, by mortgage or otherwise, as may be deemed expedient.

By order of the Board, G. ANGUS, Sec.

10A, King's Arms-yard, Moorgate-street, London, May 21, 1887.

# THE PORT BOWEN NEW COMPANY (LIMITED).

Notice is hereby given, that the ORDINARY GENERAL MEETING of the company will be HELD at the offices of the company, 11, New Broad-street, in the City of London, on Thursday, the 4th day of June next, at One o'clock p.m. precisely.

The directors request the presence of Mr. C. Buller, Esq., and W. Feigate, Esq. They are eligible for re-election, and offer themselves accordingly.

James Clay, Esq., M.P., has resigned his seat on the direction, and the vacancy should be filled up at the present meeting.

Charles Locock Webb, Esq., and William Quilter, Esq., the auditors of the company, vacate their office at this meeting, but are re-eligible.

The Transfer-books of the company will be closed from the 23rd day of May inst. to the 5th day of June, inclusive.

By order of the Board of Directors, W. L. WEBB, Sec.

11, New Broad-street, London, E.C., May 21, 1887.

# NOUVELLE MONTAGNE COMPANY.—At the GENERAL MEETING, held at 10, rue de la Harpe, on the 20th April, it was resolved that the DIVIDEND for the year 1886 should be 100 fr. per share, payable as follows:—

50 fr. the 1st of July next, as first dividend, on presentation of the Coupon No. 5, which, marked with a stamp indicating the payment, will be returned to the holders, to enable them to receive

50 fr. the 31st December next, as second dividend.

The following bonds have been drawn, to be reimbursed the 1st of July next:—

No. 20, 37, 42, 58, 63, 82, 117, 125, 133, 154, 161, 168, 169, 203, 208, 215, 220, 235, 250, 257, 279, 281, 297, 306, 316, 340, 354, 359, 366, 376, 379, 407, 421, 445, 448, 453, 491, 493, 501, 503, 519, 524, 529, 532, 545, 553, 558, 581, 590, 593, 600, 634, 635, 656, 664, 680, 683, 703, 719, 722, 734, 750, 781, 783, 786.

The payments of the dividends, and the coupons of interest, will be made at Verrières, at the offices of the company.

London, by Messrs. C. Devaux and Co. Paris, by Messrs. Rougemont Lowenberg.

Bruxelles, by Messrs. J. P. Matthien et Fils.

Liège, by Messrs. Nagelmakers et Fils.

Le Directeur Général de la Société, VICTOR SIMON.

Verrières, April 23, 1887.

# LONDON UNADULTERATED FOOD COMPANY (LIMITED).

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of the London Unadulterated Food Company (Limited) will be HELD at the company's office, 25, Bucklersbury, London, on Wednesday, the 27th inst., at Twelve o'clock precisely, to receive a report from the board of directors as to the arrangements they have made with the promoters of the company, and to approve of the same.

By order of the Board, WILLIAM CRIBB, General Manager.

Messrs. R. & J. COUPE, ENGINEERS AND IRONFOUNDERS, MANUFACTURERS OF HORIZONTAL HIGH-PRESSURE STEAM-ENGINES, from 10 to 200-horse power; the larger description of engines mounted with their improved vertical steam engines, which has proved itself so eminently adapted for winding and other engines.

Clayton Foundry, Wigan.

# TURBINES.—WILLIAMSON BROTHERS beg to draw attention to their TURBINE WATER-WHEELS, which are well suited for use wherever water-power is obtainable, and especially in MINING DISTRICTS. For high falls, they possess great advantages over the ordinary vertical wheel, can be erected at much less expense, require very little masonry, and from their rapid revolution, the speed for driving machinery is obtained without gearing. Full particulars and testimonials may be had on application to

WILLIAMSON BROTHERS, Canal Ironworks, Kendal.

Steam-Engines, Vertical Water-Wheels, &c.

# PERREUX'S PATENT PUMPS AND VALVES.

These PUMPS are warranted FREE from ALL LIABILITY TO CHOKES, or become otherwise DERANGED; the VALVES can be applied to any size or description of pumps, and are NOT AFFECTED BY HEAT, COLD, ACIDS, or ALKALIES.

For further information, and view of working models, apply at the office of the patentees, PERREUX and Co., engineers, &c., 39, Mark-lane.

# VULCANIZED INDIA RUBBER MACHINE BANDING

is not affected by wet, heat, or cold; does not stretch nor slip on the pulleys. HOSES for BREWERIES, &c., will not impart taste, smell, or colour; also, for conveying, or steam purposes. VALVES, WASHERS, PACKING, &c., IN STOCK.

Prices and testimonials on application to DODGE, BACON, and Co., No. 44, St. Paul's Church-yard, London, E.C.

# NOTICE TO RAILWAY AND STEAM-BOAT TRAVELLERS.

—ANDERTON'S HOTEL, 162, 164, and 165, FLEET STREET. BREAKFAST, with joint, 1s. 6d. BEERS, 10s. 6d. per week. DINNERS from Twelve to Eight o'clock; joint and vegetable, 1s. 6d.; with soup or fish, 2s. TURTLE SOUP and VEAL DUMPLING. TABLE D'HÔTE at Half-past One and Half-past Five, at Two shillings each. A night porter in attendance.

# In the Court of Vice-Wardens of the Manors.—Manors of Carmarthenshire.

In the Cause of NORTON v. BEST AND ANOTHER (Executors of Benjamin Best, deceased).

# IN RE EAST CARADON MINE.

NOTICE IS HEREBY GIVEN, that, pursuant to an ORDER, or DECREE, made in the above-mentioned Cause, and bearing date the 24th day of April last, a PUBLIC AUCTION will be HELD at the Registrar's Office, Truro, on Wednesday, the 3rd day of June next, at One o'clock in the afternoon, for SELLING FIFTY (50) PARTS, or SHARES of the said Defendants as such Executors as aforesaid, of and in the said MINE, or as many of the said shares as may be necessary to satisfy the said Order, or Decree, and of and in the ORES, HALVANS, ENGINES, MACHINERY, MATERIALS, and OTHER EFFECTS, upon and belonging to the said MINE.

For further information, application may be made to Mr. R. W. CHILDS, plaintiff's solicitor, 23, Coleman-street, London; or to Mr. ROBERTS, solicitor, Truro.

Dated Registrar's Office, Truro, May 20, 1887.

# QUEEN OF DART MINE, ASHBURTON, DEVON.

FORFEITED SHARES FOR SALE.

Notice is hereby given, that, at the Special General Meeting of the shareholders, to be held at the mine on Monday, the 1st day of June next, EIGHT HUNDRED and THIRTY-ONE FORFEITED SHARES WILL BE SOLD, for non-payment of calls, in accordance with the Rules of the company, and the notices forwarded to the defaulters.

By order of the Committee of Management, EDWARD SAWDYE, Purser.

Mining Office, Ashburton, May 21, 1887.

# WEST COLLAcombe MINE.—FOR SALE, the LEASE of this

valuable MINE, situate in the parish of South Sydenham, in the county of Devon; also the MATERIALS on the same, comprising a 36 in. STEAM-ENGINE, with a 10 tons boiler, pumps, pulleys, and everything requisite for carrying on the mine. Great quantities of copper, lead, and zinc have been sold. The sett is adjoining the Collacombe Mine, now in a dividend-paying state.

Further particulars may be obtained by applying to Mr. THOS. NICHOLLS, of Tavistock, Devon; or Mr. WALTER THOMSON, mining agent, No. 123, Bishopsgate-street Within, London, E.C.

# MINE MACHINERY FOR SALE BY PRIVATE CONTRACT.—

An excellent 70 in. cylinder PUMPING ENGINE, 13 ft. stroke in the cylinder, and 10½ ft. in the shaft, with two boilers 26 tons; new three years ago.

A 46 ft. WATER-WHEEL, 3 ft. breast (within), with east-iron axle and sockets two sweep rods, and balance-bob, complete.

St. Austell, Feb. 28, 1887.

J. J. GUMMOE.

# VALUABLE AND EXTENSIVE COLLIERIES IN SOUTH WALES FOR SALE, together or in shares.

They are in regular work, and capable of supplying 500 to 600 tons of superior coal per day.—Address, Mr. HORS, 3, Frederick-street, Old Jewry.

# TO BE SOLD, with immediate possession, a compact IRONWORKS

and PREMISES, within a convenient distance of the City of Bristol, in the vicinity of the Great Western and Gloucestershire Railways, and immediately adjoining the proposed line of the Central Somerset Railway. The WORKS comprise three hammers and two furnaces, suitable for all kinds of hammered work, up to 30 cwt., with crane and every convenience, in good repair; a complete supply of water-power of 30-horse; a new engine and boiler, capable of working up to 30-horse; lathe and smith's shops; warehouse and office; stables and coach-house; and other offices. There are three dwelling-houses, one suitable for master or manager, adjoining the works; and the whole is situated upon and comprises about 5 acres of freehold land. The same has been, and may be made a still more profitable concern. Iron ore and coal are raised in the immediate neighbourhood. Satisfactory reasons will be given for the present proprietor leaving the same. Part of the purchase-money may remain on mortgage.—Further particulars may be known by applying to Mr. M. MATTHEWS, Directory office, Bristol.

# IRELAND.—FOR SALE, THE ROSELLAN SILEX AND IRON ORE MINES.—THE LESSEE of this very valuable property is desirous to SELL HIS INTEREST therein, but would have no objection to re-invest a considerable sum, under the Limited Liability Act.

The MINES comprise a vast amount of WHITE SILEX, used largely in the manufacture of porcelain and glass. CLAYS in great abundance, for earthenware, sanitary ware, bricks, tiles, &c.; besides, a thick bed of rich IRON ORE, with some MANGANESE. There are 24 years of the lease unexpired, and the royalty or rent is low. The requirements of Ireland, and the circumstances of the mines, are singularly favourable for the establishing here, and on a wide basis, the manufacture of all kinds of earthenware, flint and crown glass, sanitary ware, bricks, tiles, &c.

Every information necessary for forming a correct estimate of this property may be obtained on application to Mr. JAMES DREWING, C.E., Rosellan, near Cork; or to Messrs. TUCKER and DUNCOMBE, 54, Grand Parade, Cork.—March 20, 1887.

# CANNOCK CHASE MINES.—The attention of coal and ironmasters

is called to these valuable MINES of COAL and IRONSTONE, a further portion of which it is intended to LET forthwith.

The Birmingham Canal Company, having made arrangements for the extension of their works into the centre of the mineral tract east of Hednesford, every facility will be afforded of ready access to the markets in the coal and iron districts of South Staffordshire.—Plans and particulars of the district to be let may be seen after the 4th of May inst., at the offices of Messrs. WOODHOUSE and JEFFREY, Midland-road, Derby; and Messrs. COLLIS and BERNARD, solicitors, Stourbridge.

# COAL.—TO BE SOLD, OR LET, in suitable lots, TWO valuable

SEAMS OF COAL, commonly called the Arley Mine, and the Upper Mountain Mine, extending under several hundred acres, in the township of Great Harwood, in the county of Lancashire. The former mine is about 77 yards, and the latter at 156 yards from the surface.

Sections of the borings may be seen by applying to Mr. POZAR, Rufford Hall, Ormskirk; or to Messrs. JAMES WHITTE and SONS, Charnock Richard, Chorley; either of whom will supply further information.

# FLINTSHIRE COLLIERY.—TO BE LET, the BIGHTON

COLLIERY, near Mostyn, Flintshire, the property of the Right Hon. the Viscount Fielding. The COAL found now advertised is situated upon the Mostyn Coal Field, and consists of about 430 acres of land, chiefly having the frontage on the deep to the sea-shore. The following beds of coal have been partially worked on the rise, but not on the deep of this ground, viz.:-

The Three Yard Coal. The Stone Coal. The Five Quarter Coal. The Durborg, or Seven Feet Coal. The Twenty Inches Coal.

Besides the above, it is supposed that other beds exist, which could be worked by the aid of machinery.

The estate is bounded on the west by the Mostyn Collieries; on the north by the collieries of Messrs. EYTON, called South Mostyn; and on the east by the Englefield and Trevor Collieries; all in full operation.

The proximity of the railway and shipping places (both being but half-a-mile distant) renders the property well worthy the attention of coal masters desirous of establishing collieries of a permanently remunerative character. The estate abounds with ironstone. A moderate minimum rent will be expected.

Apply to Messrs. FARRAR, GOODFORD, and Co., Lincoln's Inn, London; Mr. THOMAS, mineral agent, Bryn Madyn, near Holywell; or to Mr. EDWARD JONES, Pendre House, Holywell, Flintshire.

# LEAD FOR EXPORTATION.—PIG-LEAD (hard and soft)

SOLD AT LOW RATES. THE BEST PRICE GIVEN FOR LEAD ASHES, &c., and OLD LEAD.—ROBERTS and Co., Southwark Lead Works, Gravel-lane, London.

# LEAD ASHES, OLD AND TEA LEAD BOUGHT OR

EXCHANGED, in large or small quantities.—A. LINDSEY, 36, Great Portland-street, Spitalfields, N.E.

# REAL DEL MONTE MINING COMPANY (Dissolved in 1848).—

Those HOLDERS of LOAN NOTES, or RED DEBENTURES, who have not received the dividends of assets of this company, are requested to SEND IN THEIR CLAIMS to Mr. JOHN PHILLIPS, 5, Queen-street-place, London, E.C.

# GREAT CRINNIS COPPER MINING COMPANY.

ST. AUUSTELL.—Notice is hereby given, that, by order of the Committee of Management, a CALL of ONE SHILLING per share on the NEW SHARES of this company is now made, payable at the offices of the company, 47, Old Broad-street, on the 26th May inst.—London, May 6, 1887.

C. R. READ, Chairman.

# GREAT CARADON MINING COMPANY.—A GENERAL

MEETING of the shareholders in this company will be HELD on Wednesday, the 3rd day of June, at One o'clock precisely, at the offices of the company, 2, Church-court, Clement's-lane, London, when all shareholders are requested to attend.

# TRELEIGH CONSOLIDATED MINES.—This company having

been dissolved, and the mines, together with the engines and materials, sold by public auction, in pursuance of a resolution passed at two Special General Meetings, held on the 20th and 24th of April last.—Notice is hereby given, that a NEW COMPANY is in COURSE OF FORMATION, on the Joint-Stock Principle, to consist of 5000 shares; and that at a recent meeting of the promoters of the new company it was resolved—"That all shareholders in the old company shall have the option of taking the same number of shares in the new as they held in the old concern, and be considered to have paid 10s. per share on their shares, in full discharge of their interest in the assets of the old mine, provided they exercise such option within one calendar month from this date."

The shareholders in the old company who take an interest in the new will, therefore, have to pay 2s. 6d. per share in discharge of the first call. All such shareholders who are desirous of taking shares in the new concern are requested to signify their intention to the secretary, and deposit with him their certificates of shares in the old company, and to pay the call of 2s. 6d. per share. Upwards of 4000 shares have already been taken up by the old proprietors. In the event of any shareholder declining to take an interest in the new concern, he will be entitled, upon the accounts of the old being made up, to receive his *pro rata* division of the net assets.

By order of the Board, WM. NICHOLSON, Sec.

57, Old Broad-street, May 20, 1887.

# WALLER MINE.—THE GENERAL MEETING, held this day,

is ADJOURNED to MONDAY, the 25th inst., when shareholders are requested to attend.—Graham House, Old Broad-street, May 18, 1887.

# THE CARNARVONSHIRE SLATE COMPANY (LIMITED).—

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of this company will be HELD at the offices of the company, 5, Church-passage, Guildhall, London, on Tuesday, the 2nd day of June next, at One o'clock precisely, to take into consideration the necessity of extending the powers given to the directors by the resolution confirmed on the 11th day of March last (authorising them to raise the sum of £10,000 on debentures, at 5 per cent.), so that the directors may raise such sum of £10,000 on such terms as they shall think fit.

By order of the Board, HENRY TARR, Sec.

Offices, 5, Church-passage, Guildhall, London, May 21, 1887.

# TO ENGINEERS, TOOL MAKERS, IRONFOUNDERS, BROKERS, AND OTHERS.

MR. WHEATLEY KIRK respectfully announces that he is favoured with instructions to ARRANGE, CATALOGUE, and SELL BY AUCTION, on Wednesday and Thursday, the 27th and 28th May, and following day, if necessary, commencing at Eleven o'clock each morning, the WHOLE of the exceedingly valuable PLANT, TOOLS, MACHINERY, PATTERNS, STEAM-ENGINES, BOILERS, MILL GEARING, STOCK-IN-TRADE, and MATERIALS, on the premises of the Phoenix Ironworks, Hanley, Staffordshire, comprising:—

12-horse power HIGH-PRESSURE ENGINE, 13 in. cylinder, 2 ft. stroke, cylindrical boiler, 24 ft. long, 5 ft. 6 in. diameter, with fine through; cylindrical boiler, 17 ft. 6 in. long, 4 ft. 6 in. diameter, with 5-horse high pressure engine on top of boiler, 3 in. cylinder, 2 ft. 2 in. stroke; new horizontal engine and metallic piston, 12 in. cylinder, 2 ft. stroke, cylindrical boiler, 19 ft. 8 in. long, 4 ft. 6 in. diameter; new punching and shearing machine, will punch ¾ in. holes, through ½ in. plates; large power planing machine, will plane 13 feet long, 4 feet 4 in. wide, and 4 feet high, by Collier; large double geared shaping machine, 18 in. stroke, 30 ft. bed, by Collier; shaping machine, 16 in. stroke, by ditto; double geared upright drilling machine, by ditto; double geared screwing machine, by Vaughan and Hosack; double geared double wheel lathe, one headstock, will take in a wheel 7 ft. diameter, the other 5 ft. 6 in.; two slide rests, bed 24 feet long, 4 feet wide, by Bedlington Engine Company; 16 in. double geared lathe, bed 12 ft. long; 10 in. double geared slide lathe, compound slide rest, bed 24 ft. long; 12½ in. double geared lathe, with slide rest; two 12 in. double geared lathes, with slide rests; screw face plates, beds 24 feet long, by Bedlington Engine Company; 11 in. raised to 13½ in. double geared lathe, slide rest, bed 12 feet long, by Whitworth; 13½ in. double geared screw cutting lathe, slide rest, bed 12 ft. long; 7 in. double geared lathe, 8½ in. double geared screw cutting lathe, bed 6 ft. long; 9½ in. single speed lathe; nut cutting machine, by Newmyth; boring bar, 7 ft. 6 in. long, with rests; two boring heads, grindstone in iron frame, five pair of stocks, taps, and dies, screw jacks, mandrills, clams, steel tools, vices, benches, hammers, chisels, files, drill bars, braces and drills, blocks and ropes, wood lathe beds, all the line and counter shafting, smith's anvils, swage blocks, sets, swages, and drifts, bolt moulds, slake trough, fan and blow pipes, weighing machine and weights, quantity of new iron, boiler maker's tools, punching and shearing machine, plate bending machine, will take in a plate 4 ft. wide; bellows, two wood sheds, foundry crane, single purchase crab, large and small ladles, riddles, shovels, crucibles, core boxes, loam boards. In joiners' and pattern makers' shops, 13 in. single speed break lathe, bed 16 ft. long; four joiners' benches, drawing boards, quantity of mahogany, force pump, pipe forcing machine, 42 in. fan in iron frame. In the yard: cylindrical boiler, 22 feet long by 4 feet diameter; shear legs, single purchase crab, weighing machine, on wheels; four wheeled and other luries, two carts, with two sets of sideboards; quantity of packing blocks, quantity of patterns, various. The contents of store-room: new files, oil, nails, lead, zinc, sandpaper, emery, oil and counting-house fixtures, &c.

Full particulars in catalogues, which may be had at the office of the auctioneer, Cross-street Chambers, Cross-street, Manchester, and 4, Kirkgate, Leeds; or at the Works; or of W. B. AMES, Esq., solicitor, Iron Bridge, Salop.

N.B. The above ironworks are to be let, and possession thereof given at the end of July.—For particulars and to treat, apply to Messrs. WARR and SONS, solicitors, Newcastle, Staffordshire.

# FOREST OF DEAN, GLOUCESTERSHIRE.

**PREVENT SMOKE AND INCREASE STEAM.—PATENT REGULATING AIR-DOOR, FOR MARINE AND STATIONARY STEAM-BOILERS, AND FOR LOCOMOTIVE AND OTHER FURNACES.**

“*Patents* left Victoria Dock with air apertures closed (i.e. action of invention suspended), steam fell in 30 minutes from 15 lbs. pressure to 12; smoke heavy for five minutes at each firing. Air apertures then opened; smoke suppressed in 30 seconds; and in ten minutes after adjustment of apertures steam blowing off at 15 lbs., and maintained when pilot left at sea.”

For further particulars respecting the Patent Regulating Air-Door, and the Patent Safety Marine Boiler; and with reference, also, to his Patent Land Furnaces, Domestic Stoves, and other inventions comprised in his System of Smoke Prevention, apply to Mr. JOHN LEE STEVENS, 1, Fish-street-hill, City, London (E.C.), where a great variety of models and drawings may be seen, and reports and testimonials obtained.

**OVERLAND ROUTE.—STEAM TO INDIA AND CHINA, &c.,** via EGYPT.—THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS AND RECEIVE GOODS AND PARCELS FOR THE MEDITERRANEAN, EGYPT, ADEN, BOMBAY, CEYLON, MADRAS, CALCUTTA, THE STRAITS, AND CHINA, by their steamers leaving Southampton on the 4th and 20th of every month.

For further particulars, apply at the company's offices, No. 122, Leadenhall-street, London; and Oriental-place, Southampton.

**PATENT WIRE ROPES, ONE-HALF THE COST OF HEMP ROPES.**—HENRY J. MORTON AND CO.'S (No. 2, BASINGHALL BUILDINGS, LEEDS) PATENT WIRE ROPES, for the use of MINES, COLLIERIES, RAILWAYS, &c.; one-half the weight of hemp rope, and one-third the cost; one-third the weight of chains, and one-half the cost—in all deep mines these advantages are self-evident. References to most of the principal colliery owners in the kingdom. GALVANISED SIGNAL CORDS AND KNOCKER LINES; will not rust or corrode, and not affected by the copper water in mines. Very strong, and not at all liable to break. Prices from 15s. per 100 yards.

CROGGON'S PATENT ASPHALTED ROOFING FELTS, 1d. per foot. DRY HAIR BOILER FELTS, to save coal. PATENT BOILER COMPOUND, for bad water. FAIRBANK'S WEIGHING MACHINES, of all sizes. GALVANISED IRON ROOFING AND SPOUTING. PATENT FLEXIBLE STEAM PACKING, 1s. 4d. per lb. PATENT METALLIC PACKING, 4s. per lb. PATENT AMERICAN DRIVING BELTS, much cheaper and more durable than leather. PLANK HOSE PIPES, for water, &c. PATENT GALVANISED AIR-PIPES, for ventilation. STOCK OF MINING AND RAILWAY STORES in Liverpool and London:—viz., OILS, GREASES, COTTON WASTE, SPUN YARN, WHITE LEAD, VARNISHES, &c.; and at very low prices.—Address, 2, Basinghall-buildings, Leeds. N.B. Illustrated price list on application.

**MOST IMPORTANT TO COLLIERY OWNERS AND COLLIERY MANAGERS.**—HENRY J. MORTON AND CO., GALVANISED IRONWORKS, No. 2, BASINGHALL BUILDINGS, LEEDS, beg to call attention to their IMPROVED SIGNAL BELL, specially prepared to meet the requirements of the new Act for the Inspection of Coal Mines. It has met with the decided approval of many large colliery owners and managers. SIMPLE, EFFICIENT, and CHEAP. Price £1 10s. each. BYRAM'S PATENT ANEMOMETER, for testing the ventilation. Price £3 3s. to £4 4s. each.

**STEAM PRESSURE GAUGES,** very strong and accurate, £2 and £2 12s. 6d. each. For further information, apply to H. J. MORTON AND CO., 2, Basinghall-buildings, Leeds.

**FAIRBANK'S IMPROVED PATENT WEIGHING MACHINES,** for the use of IRONWORKS, COLLIERIES, RAILWAYS, WAREHOUSES, STORES, &c.; the most ACCURATE MACHINES in use, and the cheapest. MACHINES of all sizes, from 1 cwt. to 30 tons, for RAILWAY WAGONS, CARTS, or WAGONS.—For prices and all other information, apply to HENRY J. MORTON AND CO., GALVANISED IRONWORKS, 2, Basinghall-buildings, Leeds. CROGGON'S PATENT ASPHALTED ROOFING FELTS, Boiler Felt, Galvanised Iron, &c., in Stock.

**PATENT COMBINED GAS WORKS,** of all sizes, for the use of PRIVATE HOUSES, MANSIONS, RAILWAY STATIONS, MILLS, COLLIERIES, VILLAGES, &c.; FIXED COMPLETE, with greatly improved means for purifying, &c. Works of all sizes, from 10 lights to 500 lights, estimated for. The construction is so simple, that the works can be entrusted to the management of an ordinary labourer or servant. Apply to H. J. MORTON AND CO., GALVANISED IRONWORKS, 2, Basinghall-buildings, Leeds. SOLE LICENSERS AND AGENTS.

**TO ENGINEERS, RAILWAY COMPANIES, STEAM PACKET COMPANIES, COLLIERY OWNERS, MILL OWNERS, &c.**—WARNER'S IMPROVED ANGLO-AMERICAN FLEXIBLE CANVAS, and MINERALISED INDIA RUBBER PACKING for STEAM JOINTS, PUMP CLACKS, VALVES, &c.—The attention of all using steam-power is called to this elastic packing, possessing advantages which renders it the cheapest in use. Reducing friction, saving time and labour, and lasting as many months as hemp or spun yarn will weeks. Price 1s. 4d. per pound, carriage paid. Also, MINERALISED INDIA RUBBER HOSE PIPES, TUBINGS, MILL BANDS, and WASHERS. The attention of engineers, mill owners, machine makers, brewers, and others, is called to the above improved hose pipes and machine belting or mill bands, the important advantages of which, as regards durability, efficiency, and cheapness, are too well known and appreciated to need comment. For lists of prices, apply to the agents, HENRY J. MORTON AND CO., GALVANISED IRONWORKS, 2, Basinghall-buildings, Leeds. INDIA RUBBER WASHERS for JOINTS for steam, water, and gas, of all sizes.

**PUMP BUCKETS.—IMPORTANT TO COLLIERY AND MINING PROPRIETORS, SHIP OWNERS, ENGINEERS, &c.** KENNEDY AND EASTWOOD'S PATENT EXPANDING RING CLACK BUCKETS.—These buckets are APPLICABLE to every description of AIR and LIFT PUMPS, and are being generally adopted, on account of their great durability, entirely dispensing with the use of leather or gutta percha. Being made of metal, the friction is greatly reduced, and have been proved to require at least one-third less power to work them than buckets made of either leather or gutta percha, and doing their work more efficiently.

Whitehaven, March 26, 1857.—(TESTIMONIAL.) We have much pleasure in informing you that your Patent Pump Buckets are giving us the greatest satisfaction, and we shall certainly use no other kind in future. We shall be glad if you will send us a few of your prospectuses, we wish to send one to a friend in Staffordshire. Please to take care of the gauges, that you may at any time make new rings for us by them, the one you now have is for our bottom lift. Yours, truly, (Pro S. W. SMITH AND CO.), A. HODGETTS. Messrs. Kennedy and Eastwood.

KENNEDY AND EASTWOOD have also a NEW PATENT METAL BOTTOM CLACK (to work with their Patent Buckets), which entirely dispenses with the use of leather or gutta percha, and is highly recommended for the efficiency of its working and great durability. A wire gauge, the exact size of the working-barrel, should accompany each order. Terms, drawings, testimonials, and other information, will be supplied (gratis) on application to Messrs. KENNEDY AND EASTWOOD, patentees, Ulverston, Lancashire; Messrs. HENNETT AND ALLOTT, accountants, Central Chambers, Sheffield; and Messrs. H. J. MORTON AND CO., 2, Basinghall-buildings, Leeds.

**THE BEST HYDRAULIC CEMENTS,** PORTLAND, ROMAN, AND BATH; Made from the NATURAL CEMENT STONE, by the ORIGINAL INVENTORS AND MANUFACTURERS, FULLWOOD, THOMPSON, AND CO.,

“THE BRIDGWATER CEMENT WORKS,” BRIDGWATER. Can be relied upon for INVARIABLE REGULARITY of strength and colour. Patents.—Casks included, delivered (freight paid) at Cardiff, Newport, and most other ports in South Wales:—

Portland and Bath, per cask of 4 bushels..... 8s. 6d. Roman, per cask of 4 bushels..... 7s. 6d. And delivered to all other parts at proportional prices.

Reference permitted to Mr. D. L. WILKINS, C.E., Consulting Mining Engineer, 104, King's Arms-yard, Moorgate-street, London, of whom samples, testimonials, and all further information may be obtained.

**GUTTA PERCHA BANDS, TUBING, &c.**—Our BANDS, carefully MANUFACTURED from the VERY BEST GUTTA PERCHA only, are considerably CHEAPER, and, when fairly worked, are far more DURABLE than LEATHER. Can be had in lengths of 100 or 120 ft. without a joint, and easily joined or repaired, and are, when worn out, re-purchased by us at about one-third of their original cost. In the event of a break down, a band of any size can be supplied within a few hours of receipt of order. The present prices are as under:—

Bands above 1/2 in. thick and upwards to 1 1/2 in. 2s. 6d. per lb. Bands 1/2 in. thick and upwards to 1 1/2 in. 2s. 2d. per lb. Subject to a liberal discount for cash, varying according to quantity. TUBING and other articles equally low. All our patented manufactures are to be obtained wholesale from our own works; retail from all our dealers.

THE WEST HAM GUTTA PERCHA COMPANY. West-street, Smithfield, London, E.C.

**AN ACT OF GRATITUDE.** Five Thousand Copies of a Medical Book for Gratuitous Circulation.

**GEORGE THOMAS, Esq.,** having been EFFECTUALLY CURED of a NERVOUS DEBILITY, LOSS OF MEMORY, and DIMNESS OF SIGHT, resulting from the early errors of youth, by following the instructions given in a medical work by a physician, he considers it his duty, in gratitude to the author, and for the benefit of nervous sufferers, to publish the means used. He will, therefore, send free, to any address, in a sealed envelope, on receipt of a directed envelope enclosing two stamps, to pre-pay postage, a copy of the medical work, containing every information required.—Address, G. THOMAS, Esq., St. John's-lane, Newcastle-upon-Tyne.

**THE ONLY REAL CURE WITHOUT INWARD MEDICINE IS** ROYER'S ROYAL BATH PLASTERS.

For Coughs, Asthma, Hoarseness, Indigestion, Palpitation of the Heart, Griping, Hooping Cough, Influenza, Chronic Strains, Bruises, Lumbago, or Pains in the Back, Spinal and Rheumatic Affections, Diseases of the Chest, and Local Pains. Prepared only by ROYER AND SONS, Chemists, Sheffield, on medico-chemical principles, from British Herbs and the Gums and Balsams of the Eastern Climate. “The trees and herbs, and makes it sovereign as it flows.” Health sets, and makes it sovereign as it flows.” Full-sized plaster, 1s. 1/4d.; and for children, 9d. each, or direct by post on receipt of 1s. 4d., or 1s. each in postage stamps. Sold by most Patent Medicine Vendors in the United Kingdom.

**Beware of Imitations!**—Be particular, and ask for ROYER'S PLASTERS.

**NEW PATENT ACT, 1852.**—Mr. CAMPIN, having advocated Patent Law Reform before the Government and Legislature, and in the pages of the *Mining Journal*, &c., is now READY TO ADVISE AND ASSIST INVENTORS IN OBTAINING PATENTS, &c., under the NEW ACT.

The Circular of Information, gratis, on application to the Patent Office and Design Registry, 158, Strand.

**RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO., MIDLAND WORKS, BIRMINGHAM. BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS, IN STOCK—FOR SALE OR HIRE.**

**BURGIN AND WELLS, STEEL CONVERTERS AND REFINERS, MANUFACTURERS OF RAILWAY CARRIAGE AND WAGON SPRINGS, IMPROVED CAST-STEEL FILES, &c., HOLLIS CROFT STEEL WORKS, SHEFFIELD.**

**JOHN H. PECK, MANUFACTURER OF RAILWAY OIL COVERS, CART AND WAGON COVERS, OIL CLOTH, STACK COVERS, BOAT SHEETS, TARPULIN, BRATTICE CLOTH, COKE AND CORN SACKS, POTATO BAGS, TWINE, &c., WIGAN, LONDON AGENT.—T. E. WELLS, 15, Duke-street, Adelphi.**

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**BRYAN, McCRACKEN, AND CO., MERCHANTS, AND GENERAL COMMISSION AGENTS, NEWCASTLE-ON-TYNE. Offices, Three Indian Kilns-court.**

**WILLIAM FOX AND SON, METAL AGENTS, No. 39, OLD HALL STREET, LIVERPOOL, SOLE AGENTS IN LIVERPOOL FOR THE SALE OF THE following makes of IRON:—**

DAWE AND SON'S. MILTON AND ELGAR. JOHN MARSHALL'S. PLANT AND FISHER'S. BROUGHTON HALL. DANIEL ROSE'S. EVERY DESCRIPTION OF IRON ALWAYS ON SALE. Also, TIN-PLATE, WIRE, RAILWAY SPIKES, &c.

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**MUNTZ'S PATENT SOLID ROLLED BRASS TUBES, FOR LOCOMOTIVE AND MARINE BOILERS.** G. F. MUNTZ, Junr., begs to state that, in consequence of the satisfactory results obtained during the five years these tubes have been in use, the following railway companies have entered into contracts to USE the PATENT TUBES exclusively on all their lines, viz.:— The London and North-Western Comp. | The Lancashire and Yorkshire Company. The Midland Company. | The Newcastle and Carlisle Company. These tubes are also very extensively used on all the other principal railways at home and abroad, and for marine purposes by Her Majesty's Navy and several of the leading steam-packet companies, and also by all the eminent engineers of the kingdom. G. F. MUNTZ, Junr., takes this opportunity of stating that the tubes now manufactured are very superior both in finish and quality, to those formerly produced in the early stage of the patent.—French Works, Birmingham, April, 1857.

GEO. REID AND SONS, Agents, 10, Craig's-court, Charing-cross, London.

**SULPHATE OF BARYTES.**—Messrs. A. FORSTER AND CO., BARYTES MANUFACTURERS, BRENTFORD, MIDDLESEX, are PURCHASERS OF FIRST QUALITY in the crude state.—Applications, stating price and enclosing samples, to be addressed to A. FORSTER AND CO., *Mining Journal* office, 26, Fleet-street, London, E.C.

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40, Mitchell-street, Glasgow, April, 1857. WILLIAM JOHNSTON

**GOLD ORES TREATED BY THE NEW PROCESS.**—TO GOLD COMPANIES, AND TO THOSE INTERESTED THEREIN.—CALIFORNIA AND AUSTRALIAN QUARTZ, showing no visible gold, but by the new method of treatment, from 50 to 120 cwt. of gold per ton; and practically proves that gold exists largely in quartz in a non-metallic state, the same ore, by the present system of treatment, not averaging one 1/2 oz. to the ton.

The shareholders of the Quartz Reduction, Anglo-Californian, Liberty, Waller, and especially those of the Quartz Rock Company, are invited to inspect ores from their mines which have been operated upon. And parties desirous of having the new system of gold extraction fairly tested may bring their own quartz for that purpose. English and Foreign Ores carefully Assayed and Purchased, Mines and Gold Localities Surveyed.—Apply to Mr. SQUIRE, 74, King William-street, City.

**TO MINERS, &c.—WALKER'S PATENT DRY STAMPING MACHINES, FOR REDUCING CROP AND OTHER ORES to the proper size for market, WITHOUT WATER.** These machines will be found invaluable for new mines, wherever water is scarce and labour dear. Manufacture, 17, Cowper-street, City-road.

**GOODALL'S PATENT QUARTZ CRUSHER OR PULVERIZER** is the best invented; requiring little power to work; will not clog, as most machines; will GRIND, WASH, and AMALGAMATE at the same time.—Patented, H. GOODALL, St. Peter's-street, Derby.

**THE ROTATING BUDDLE is the BEST LABOUR SAVING and MOST EFFICIENT APPARATUS for WASHING STAMPED ORES and SLIMES.** It will do from seven to ten times the amount of work of any other apparatus in use, with the attendance of a boy only. A 6 ft. water-wheel will drive two of them, and it turns the ore out cleaner and leaves the waste free from ore. It separates tin from copper; lead from copper, black jack, sulphates of barytes; copper from any vein-stuff or matrix. May be seen at work daily at Driggitt Mines, near Caldecott, Cumberland.—For particulars and licenses, apply to DAVID ZENNER, patentee, Newcastle-upon-Tyne.

Models to be seen in the Crystal Palace, Sydenham, and Mining School, Royal Institution, Truro. Agents wanted for Cornwall and Wales.

**PATENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE MEDAL** was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, BICKFORD, SMITH, DAVEY, and PRYOR, who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder.

This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be of any length and size, and adapted to every climate.

Address.—BICKFORD, SMITH, DAVEY, and PRYOR, Tuckingmill, Cornwall.

**SAFETY FUSE.**—Messrs. WILLIAM BRUNTON AND CO., PEN-HALLICK, near REDRUTH, CORNWALL, MANUFACTURERS OF FUSE of every size and length, as exhibited in the Great Exhibition of 1851, and supplied to the Royal Arsenal at Woolwich, the Arctic Expedition, and every part of the globe. Messrs. BRUNTON & CO. are at all times PREPARED to EXECUTE UNLIMITED ORDERS for SUPPLYING FUSE direct from their own MANUFACTORY, upon warrant that it will prove equal to, if not better, than any to be procured elsewhere.

**TO COLLIERY PROPRIETORS, ENGINEERS, AND ALL OTHERS ENGAGED IN BLASTING OPERATIONS.**—COPELAND'S PATENT IMPROVED SAFETY WATERPROOF BLASTING CARTRIDGES, as used in the principal mines of Devon, Cornwall, and Colonies. Prices for collieries, from 1 1/4d. each upwards; and for ordinary mining, equal in proportion to weight.

G. COPELAND. “Drake Wells Mine, Gwynnis Lake, Nov. 4, 1853.—The men bear strong testimony as to the efficiency of your cartridges.—Signed, NICH. SIMS.”

Manufacture, Constantine, near Falmouth.

**CAST-STEEL SPADES, SHOVELS, AND PICKS,** suitable for the MINING DISTRICTS at home or abroad, and recommended for their EXTREME LIGHTNESS and DURABILITY.—Manufactured by Messrs. SPEAR and JACKSON, Etina Works, Sheffield.

**ASSAY OFFICE AND LABORATORIES.**—DUNNING'S ALLEY, FISCHPOGATE STREET WITHOUT, LONDON. Conducted by JOHN MITCHELL, F.R.S., Author of “Manual of Practical Assaying.”

Assays and Analyses of every description performed as usual. Special Instruction in Assaying and Analysis. Consultations in every branch of Metallurgical and Manufacturing Chemistry. Assistance rendered to intending Patentees, &c.

For amount of fees, apply to the office, as above.

**NEW PATENT ACT, 1852.**—Mr. CAMPIN, having advocated Patent Law Reform before the Government and Legislature, and in the pages of the *Mining Journal*, &c., is now READY TO ADVISE AND ASSIST INVENTORS IN OBTAINING PATENTS, &c., under the NEW ACT.

The Circular of Information, gratis, on application to the Patent Office and Design Registry, 158, Strand.

**MESSRS. KNOWLES AND BUXTON, CHESTERFIELD, MANUFACTURERS OF PATENT TUBULAR TUYERES, FOR HOT BLAST FURNACES, SMITHS' FORGES, &c.**

**PATENT TUBULAR TUYERES.** Messrs. KNOWLES AND BUXTON can with confidence bring before the public their IMPROVEMENT in TUYERES, having proved their utility at Mr. Knowles's furnace, Birmingham Moor, as well as at other furnaces in the surrounding neighbourhood. They are now perfectly satisfied that one trial will be sufficient to convince all practical furnace managers that they are the CHEAPEST and BEST ever offered to the public. The annexed diagram shows the principle to be both simple and efficient, conveying a current of cold water direct to the nozzle of the tuyere, which is made of thin tubing (without the incumbrance of cast-iron), allowing the cooling property of the water to act direct upon that part most exposed to the fire, and is of property of the liquid metal from adhering to the tuyere, which is not the case with those generally in use. After taking into consideration the first cost, and the advantage of being able to work them longer without the loss of time in replacing, or injuring the metal, they will be found, after a fair and impartial trial, to be most decidedly a great advantage to furnace proprietors.

Messrs. KNOWLES AND BUXTON are prepared to SUPPLY hot-blast furnace tuyeres, with sockets, at 36s. each; without sockets, at 35s. each; smiths' forge tuyeres, at 15s. each; delivered at Chesterfield Station.

**PATENT STEAM PACKING, RUBBER, &c.** TUCK'S PATENT ELASTIC PACKING AND PATENT METALLIC LININGS, FOR STEAM-ENGINES, PUMPS, &c.

ADVANTAGES.—A more perfect vacuum is obtained, friction reduced, great saving in oil and tallow, and the packing is gradually and completely worn away without becoming hard, thus obviating the necessity of drawing the old packing.

Orders received for the Patent Packing, also for Vulcanized India Rubber, in sheets, valves, &c., at the Offices of the Patent Steam Packing Comp., 47, Mark-lane, E.C.

**ENGINES FOR PUMPING AND WINDING.**—TO BE LET, ON HIRE, with the option of PURCHASE, several strong and simple STEAM-ENGINES, MOUNTED ON PORTABLE BOILERS, with or without travelling wheels; can be worked without brickwork or flaxing; from 6 to 35-horse power.

These engines have been successfully used for years by miners and contractors, and are ready for immediate delivery. Apply to Mr. THOMAS CRESSWELL, 192, Blackfriars-road.

**PORTABLE STEAM-ENGINE COMPANY.**

PORTABLE STEAM-ENGINES TO BE SOLD, with gear, or TO LET ON HIRE, from 8 to 25-horse power.—Apply to JOHN HALL, Junr, 6, Mining-lane, London.

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## THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5120	Alfred Consols (cop.), Phyllips [S.E.]	22 1/2	110	100	10%	10%
1234	Ballewiddens (tin), St. Just	11 1/2	100	100	10%	10%
4000	Bedford United (copper), Tavistock	24 1/2	100	100	10%	10%
240	Bodan (tin), St. Just	100	100	100	10%	10%
200	Botallack (tin), St. Just	91 1/2	270	270	10%	10%
1000	Brightside and Froggatt Grove, Derbyshire	50	60	60	10%	10%
100	Brynmill Hall (lead), Flint	30	80	80	10%	10%
1000	Brynmill, Llanidloes, Montgomeryshire	7	3	3	10%	10%
6000	Bwch (silver-lead), Cardiganshire	3	50	50	10%	10%
1000	Carn Brea (copper), Illogan	13	50	50	10%	10%
2048	Carnyeth (tin), St. Just	4 1/2	50	50	10%	10%
200	Cefn Cwm Brynno (lead), Cardiganshire	33	50	50	10%	10%
1000	Collacombe (copper)	10	50	50	10%	10%
256	Condarrow (copper), Camborne [S.E.]	20	160	160	10%	10%
30000	Craven Moor, Limited (lead), Yorkshire	1/2	100	100	10%	10%
123	Cwmystwith (lead), Cardiganshire	60	140	140	10%	10%
280	Derwent Mines (silver-lead), Durham	304 1/2	150	150	10%	10%
1024	Devon Great Consols (cop.), Tavistock [S.E.]	1	455	470	10%	10%
672	Dinar Dong (tin), Guisborough	32	17	17	10%	10%
1790	Doleah's (copper), tin, Camborne	257 1/2	310	310	10%	10%
12300	Drake Walls (tin), Camborne	17 1/2	2 1/2	2 1/2	10%	10%
4000	East Darn (lead), Cardiganshire	32	55	55	10%	10%
123	East Darn (lead), Cardiganshire	32	55	55	10%	10%
1024	East Wheel Margaret (tin), Camborne	67 1/2	9	9	10%	10%
5700	Exmouth (silver-lead)	41 1/2	8	8	10%	10%
1400	Exm Mining Company (lead), Derbyshire	5	45	45	10%	10%
4040	Fowey Consols (copper), Twardreath	4	7	7	10%	10%
4444	General Mining Co. for Ireland (cop., lead)	3 1/2	2 1/2	2 1/2	10%	10%
1024	Gonomena (copper), St. Cleer	13 1/2	17 1/2	17 1/2	10%	10%
243	Graham and St. Aubyn (copper)	100 1/2	105	100	10%	10%
8000	Great South Tolgus [S.E.]	2 1/2	18 1/2	19 1/2	10%	10%
26688	Great Wheal Vor (tin, cop.), Helston [S.E.]	7	5	4 1/2	10%	10%
119	Great Work (tin), Gernoe	100	140	140	10%	10%
1024	Herodfoot (lead), near Liskeard	8 1/2	7	6 1/2	10%	10%
8000	Hingston Down Consols (copper), Calstock	3 1/2	4	4	10%	10%
2000	Holyford (copper), near Tipperary	11	8 1/2	8 1/2	10%	10%
250	Isle of Man (Limited)	25	42	42	10%	10%
76	Jamaica (lead), Mold, Flintshire	34 1/2	6d.	—	10%	10%
20	Laxey Mining Company, Isle of Man	100	1000	1000	10%	10%
160	Levant (copper), tin, St. Just	2 1/2	85	80 85	10%	10%
5000	Lewis Mines (tin, cop.), St. Erth	5 1/2	3 1/2	3 1/2	10%	10%
4000	Liaburne (lead), Cardiganshire, Wales	15 1/2	122 1/2	122 1/2	10%	10%
6000	Marke Valley (copper), Cardigan	47 1/2	106 1/2	106 1/2	10%	10%
5000	Mendip (tin), Somerset	3 1/2	2	2 1/2	10%	10%
5000	Merrilyn (lead), Flint	3 1/2	2	2 1/2	10%	10%
20000	Mining Co. of Ireland (copper, lead, coal)	7	15 1/2	15 1/2	10%	10%
6000	Nantes and Penrhyn, Limited (23 1/2 shares)	1 1/2	1 1/2	1 1/2	10%	10%
7500	Nantlle Vale (lead), Llanfyllin	1	1 1/2	1 1/2	10%	10%
6400	Nether Heath, Westmoreland	2 1/2	1 1/2	1 1/2	10%	10%
470	Newtons Mining Company, Co. Down	50	35	35	10%	10%
200	North Pool (copper), tin, Pool	22 1/2	70	60 70	10%	10%
1400	North Roseker (copper), Camborne	10	110	105 110	10%	10%
600	North Wheel Bassett (cop., tin), Ilo. [S.E.]	10 1/2	21	20 21	10%	10%
6400	Par Consols (copper), St. Blaise [S.E.]	1 1/2	23	22 1/2	10%	10%
200	Peak United (lead), North Derbyshire	100	9 1/2	9 1/2	10%	10%
1000	Phoenix (copper), tin, Llanfyllin	100	360	360	10%	10%
1000	Poiborne (tin), St. Agnes [S.E.]	15	85	85	10%	10%
560	Providence Mines (tin), Uney Lelant	204 1/2	24	85	10%	10%
2500	Rhosydyol and Bachelodan (lead)	11 1/2	12	12	10%	10%
512	Rosewarne United (copper), tin, Gwnear	12	45	46	10%	10%
12300	Sorridge Consols (cop.), Whitechurch [S.E.]	6 1/2	1 1/2	1 1/2	10%	10%
235	South Caradon (copper), St. Cleer [S.E.]	24	330	335	10%	10%
123	South Crinins (copper), St. Austell	19	285	285	10%	10%
236	South Tolgus (copper), Redruth, Cornwall	16	140	140	10%	10%
496	South Wheel Frances, Illogan [S.E.]	187 1/2	310	300	10%	10%
1024	Spearhead Consols (tin), St. Just, Cornwall	3	4 1/2	4 1/2	10%	10%
250	Spearhead Moor (copper), St. Just	257 1/2	7a.	15	10%	10%
979	St. Aubyn and Grylls (cop., tin), Breage [S.E.]	14 1/2	4 1/2	5	10%	10%
20000	St. Ives Consols (tin), St. Ives	80	180	180 180	10%	10%
94	St. Ives Consols (tin), St. Ives	80	180	180 180	10%	10%
9600	Tamar Consols (tin), Berrington [S.E.]	4 1/2	1	1	10%	10%
6000	Tincoff (copper), tin, Pool, Illogan [S.E.]	9	4 1/2	4 1/2	10%	10%
2048	Trehan (silver-lead), Menheniot	4 1/2	4 1/2	4 1/2	10%	10%
572	Trevelyan Consols (tin), St. Ives	11 1/2	19 1/2	19 1/2	10%	10%
320	Trevelyan (copper), Gwennap, Cornwall	32	65	55 65	10%	10%
120	Trevelyan (copper), Gwennap, Cornwall	15 1/2	20	18 20	10%	10%
4000	Trevelyan (copper), tin, Bodmin	12 1/2	3	3	10%	10%
4096	Trevelyan (silver-lead), Menheniot, Cornwall	2 1/2	2 1/2	2 1/2	10%	10%
100	Trumpet Consols (tin), near Helston	95	50	50	10%	10%
400	United Mines (copper), Gwennap [S.E.]	40	210	200	10%	10%
20000	Vale of Towy (lead), Carmarthen [S.E.]	4	1/2	1/2	10%	10%
10500	Welsh Potash (silver-lead), Talybont, Card.	5	—	—	10%	10%
2000	Widit (New Shares of 3d. each)	3	3 1/2	3 1/2	10%	10%
6000	West Bassett (copper), Illogan [S.E.]	31	150	150 160	10%	10%
256	West Caradon (copper), Liskeard [S.E.]	20	150	140 150	10%	10%
256	West Darnall (copper), Gwennap	10 1/2	13	11 1/2	10%	10%
1024	West Providence (tin), St. Erth	5 1/2	320	315 325	10%	10%
400	West Wheel Setaon (copper), Camborne	3 1/2	270	265	10%	10%
1228	Wheel Arthur (copper), Calstock	8	4	4	10%	10%
240	Wheel Bal (tin), St. Just	6	5	5	10%	10%
512	Wheel Bassett (copper), Illogan [S.E.]	5 1/2	270	265	10%	10%
256	Wheel Buller (copper), Redruth [S.E.]	5	380	370 375	10%	10%
1024	Wheel Charlotte, Perranuthnoe	3 1/2	500	450	10%	10%
256	Wheel Clifford (copper), Gwennap	10 1/2	95	95	10%	10%
5000	Wheel Fortescue, Bodmin	10 1/2	95	95	10%	10%
123	Wheel Friendship (copper), Devon	2 1/2	3 1/2	3 1/2	10%	10%
1024	Wheel Grylls (copper), tin, Breage	2 1/2	3 1/2	3 1/2	10%	10%
512	Wheel Jane (silver-lead), Kea	3 1/2	30	30	10%	10%
5000	Wheel Kitty (tin), St. Agnes	4 1/2	7 1/2	7 1/2	10%	10%
1024	Wheel Kitty (tin), Uney Lelant [S.E.]	11 1/2	19 1/2	19 1/2	10%	10%
430	Wheel Lovell (tin), Wendron	33	18	18	10%	10%
448	Wheel Margaret (tin), Uney Lelant	19 1/2	70	66 70	10%	10%
1024	Wheel Mary Ann (lead), Menheniot [S.E.]	70	300	300	10%	10%
256	Wheel Okeford (copper), tin, Breage	2 1/2	300	300	10%	10%
240	Wheel Keeth (tin), Uney Lelant	3 1/2	25	25	10%	10%
198	Wheel Setaon (tin, cop.), Camborne	107	150	150	10%	10%
1040	Wheel Trevelyan (tin, cop.), Gwennap	4 1/2	24 1/2	23 1/2	10%	10%
1024	Wheel Trevelyan (tin, cop.), Gwennap	4 1/2	24 1/2	23 1/2	10%	10%
4096	Wheel Wrey (lead), St. Ives	17 1/2	7 1/2	7 1/2	10%	10%
5000	Wicklow (copper), Wicklow	5	30	30	10%	10%

(\* Dividends paid every two months. † Dividends paid every three months.)

## FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5000	Alten Mining Company (copper), Norway	14 1/2	2	2	4 50	0 15
51846	Baden, Grand Duchy of	1	1 1/2	1 1/2	0 10	0 10
10000	Brazilian Imperial (gold), Brazil [S.E.]	26 1/2	1 1/2	1 1/2	34 17 1/2	0 10
2464	Burra Burra (copper), South Australia	5	110	110	180 00	5 00
12600	Cobre Copper Company (cop.), Cuba [S.E.]	40	39	37 59	84 12 00	0 16
100000	Colonial Gold, Australia	16	14	12 14	5 80	0 10
10000	Copio Mining Company, Chile [S.E.]	20	14 1/2	15 1/2	9 10	0 10
20000	General Mining Assoc., Nova Scotia [S.E.]	20	14 1/2	15 1/2	9 10	0 10
15000	Linares (lead), Pozo Ancho, Spain [S.E.]	3	7 1/2	7 1/2	4 06	0 10
10000	Lustanion (of Portugal) [S.E.]	1 1/2	1 1/2	1 1/2	0 03	0 10
18815	Marquitta and New Granada [S.E.]	1	1	1	0 26	0 10
25000	Peninsular Mining Company (Limited)	1	1	1	0 26	0 10
10000	Pontigaud (silver-lead), France [S.E.]	20	8	6 8	1 00	0 10
7000	Royal Santiago (copper), Cuba [S.E.]	15 1/2	2 1/2	2 1/2	33 00	1 00
104000	San Fernando (silver-lead), Linares	1	18	26 48	0 10	0 10
11000	St. John del Rey (gold), Brazil [S.E.]	18 1/2	18	18 1/2	34 7 1/2	0 10
48174	United Mexican (silver), Mexico [S.E.]	1	3 1/2	3 1/2	1 16 00	0 10
70000	Waller (gold), Goodland Co., Virginia	1	1	1	0 09	0 10
30000	Mexican and So. Amer. Smelting Co. [S.E.]	10	3 1/2	2 1/2	6 15 00	0 10
89676	North British Australasian [S.E.]	1	1	1	0 18	0 10

## NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
75000	Adelaide Land and Gold Co.	2	1 1/2	1 1/2	—	—
35000	Almaden (silver-lead), Spain	2	1 1/2	1 1/2	—	—
20000	Australian [S.E.]	7	1 1/2	1 1/2	—	—
80000	Canadaville Freehold	1	10 1/2	8 1/2	—	—
80000	Clarendon Consols [S.E.]	1	10 1/2	8 1/2	—	—
53040	Colony Mining Company	1	10 1/2	8 1/2	—	—
350000	Copper Mines of Eng. [S.E.]	28	27	26 28	—	—
12000	Fort, Pref. 7 1/2 per cent. [S.E.]	25	27	27	—	—
25000	Fortuna	2	1 1/2	1 1/2	—	—
100000	Great Nugget Vein	1	1 1/2	1 1/2	—	—
20000	Iberian (Limited), Spain	1	1 1/2	1 1/2	—	—
25000	Liberty, Virginia	1	1 1/2	1 1/2	—	—
15000	Liberty, Pref. 10 per cent.	1	1 1/2	1 1/2	—	—
3200	Kinzigthal Min. Ass., Germany	4	1 1/2	1 1/2	—	—
40000	London and Virginia	1	1 1/2	1 1/2	—	—
80000	Mount Carbon (cop.), Virginia	1	1 1/2	1 1/2	—	—
80000	New Granada [S.E.]	1	1 1/2	1 1/2	—	—
10000	New Grand Duchy of Baden	1	1 1/2	1 1/2	—	—
200000	Nouveau Monde [S.E.]	1	1 1/2	1 1/2	—	—
10000	Port Phillip	1	1 1/2	1 1/2	—	—
6000	Rosale and Canada Lead	10	10	10	—	—
47795	Strathbryn (Limited)	1	1 1/2	1 1/2	—	—
7820	Titto, Preference, 10 per cent.	1	1 1/2	1 1/2	—	—
100000	West Mariposa	1	1 1/2	1 1/2	—	—
35425	Wheel Jamaica (copper)	14 1/2	14 1/2	14 1/2	—	—
75000	Wildberg (silver-lead, copper)	2	1 1/2	1 1/2	—	—

## PROGRESSIVE MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
6000	Abbey Consols (lead), Cardigan	12 1/2	1 1/2	1 1/2	—	—
10000	Arundell (cop.), near Ashburton	18 1/2	—	—	—	—
800	Balmcon (tin), Uney Lelant	4 1/2	5 1/2	5 1/2	—	—
4000	Ballyvirgin, Co. Clare	22 1/2	3 1/2	3 1/2	—	—
4000	Bassett Grange United (cop.), Kea	1 1/2	1 1/2	1 1/2	—	—
4000	Bedford Consols (copper)	1 1/2	1 1/2	1 1/2	—	—
2200	Bender (Limited)	11 1/2	1 1/2	1 1/2	—	—
350	Berrion Consols	11 1/2	1 1/2	1 1/2	—	—
1000	Boiling Well (cop.), Gwinnall	9	8 1/2	9	—	—
6000	Bolenowe (copper)	16 1/2	7 1/2	7 1/2	—	—
1120	Brifford Consols	16 1/2	7 1/2	7 1/2	—	—
4000	Brook Wood, Buckfastleigh	3	1 1/2	1 1/2	—	—
2000	Bryn-y-Fedwen (lead)	3	1 1/2	1 1/2	—	—
4000	Buckland Consols (copper)	3 1/2	1 1/2	1 1/2	—	—
420	Budnick Consols (tin), Ferran	2 1/2	6	6	—	—
6400	Buller and Bassett United	1 1/2	4 1/2	4 1/2	—	—
1200	Buller and Bertha (copper)	1 1/2	1 1/2	1 1/2	—	—
612	Butterdon (silver-lead)	16 1/2	2 1/2	2 1/2	—	—
4000	Carbarn, Co. Kerry	10	6	6	—	—
600	Calcutt Hall (lead), Limerick	10	1/2	1/2	—	—
4000	Calstock Consols (copper)	4 1/2	3 1/2	3 1/2	—	—
2915	Calstock United (tin and cop.)	5 1/2	1 1/2	1 1/2	—	—
1000	Camborne Consols	13	11	11	—	—
920	Camborne Veat & Wh. Francees	17 1/2	9	9	—	—
1024	Cardon Consols, St. Cleer	11	2 1/2	2 1/2	—	—
916	Cardoff (silver-lead), Newlyn	11	3 1/2	3 1/2	—	—
1000	Castleton United (tin and cop.)	7 1/2	1 1/2	1 1/2	—	—
5000	Carnarvon (lead, cop.), Mawgan	2 1/2	2 1/2	2 1/2	—	—
7000	Carrack Dews United, St. Ives	2	—	—	—	—
1055	Carvannall (copper), Gwennap	11	6	5 6	—	—
6400	Carvath United, St. Austell	2 1/2	1	1	—	—
6000	Castell (lead and blende), Card. Ille	6 1/2	1 1/2	1 1/2	—	—
6000	Catherine and Jane Consols	11 1/2	11 1/2	10 1/2	11 1/2	—
6000	Cefn Gwyn (tin & id.), Cardigan	1	—	—	—	—
6000	Chacewater United (tin and cop.)	1 1/2	1 1/2	1 1/2	—	—
1024	Clijah & Wentworth (tin, cop.)	2 1/2	7	6 7	—	—
5900	Cloawone Wood, Crown	8 1/2	—	—	—	—
2000	Cod Mawr Pool (id.), Llanrwst	6 1/2	4	4 1/2	4 1/2	—
2450	Cook's Kitchen, Illogan	15 1 1/2	4 1/2	4 1/2	4 1/2	—
256	Cop Hill (copper), Redruth	83	4 1/2	4 1/2	4 1/2	—
1055	Craddock Moor (cop.), St. Cleer	8	1 1/2	1 1/2	1 1/2	—
1000	Croft (tin and cop.), Carnegansh	8	1 1/2	1 1/2	1 1/2	—
6000	Cwm Sehon (Limited)	2 1/2	1 1/2	1 1/2	—	—
6090	Dale Mine (lead), N. Stafford	1	4	4	—	—
2440	Dalrieh (cop. & id.), Rhayader	2 1/2	—	—	—	—